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"FORMATION" AND CAMP GROUND, BIG HORN HOT SPRINGS Photo by Winchester Art Co., Thermopolis, Wyo.

# Big Horn County

## Wyoming

THE GEM OF THE ROCKIES



By A. S. MERCER



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### INTRODUCTION

This book is written for the purpose of giving the people at large a clear and definite idea of the Big Horn Basin—about the last part of the Great West to be brought under the magic touch of men.

The writer crossed the Mississippi River when a small boy, while yet the whole region west from that point to the Pacific Ocean was unpeopled save by the red man. Fort Des Moines and one or two other military posts had been established, and a few trappers and hunters roamed the mountains in quest of furs. Otherwise the imprints of civilization were unknown between the Father of Waters and the Pacific, and between Mexico and the Polar regions.

Hence he has seen that vast region emerge from its primal condition and grow to its present stage of magnificent development. This all within the lifetime of one who is not yet considered an old man.

If such marvelous strides have been made during the last sixty years, what are the coming sixty years to show? The lands of Iowa, Kansas, and Nebraska

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were virgin. To-day they are selling at prices varying from \$25 to \$125 per acre. They are practically "under the plow," and yet the demand for land—for homes in the country—is greater than ever before. Each year sees the demand growing stronger, with prices still advancing.

Twenty-five years hence the working man who is without land will be landless, he and his heirs forever, because the price will place it beyond his reach. The public is beginning to appreciate this fact and a million of people will cross the Missouri each year for the next half century, seeking homes. Every acre suitable for home-building in all the West will be occupied and the cry will be for more acres.

Therefore, now is the time for land-hungry people to "go West" and get a foothold before it is too late. There is still some government land open to the home-seeker, but the best has been taken. Partially improved farms, or ranches, as they are called in the West, are comparatively cheap; but each year witnesses a material advance in price.

The diversified resources of Big Horn County and completion of the railroad to the very heart of that region in the spring of this year (1906) make it a certainty that we are on the eve of a

wonderful day of development. It is confidently believed that during the year 1906 more than fifty thousand settlers will locate in the Basin country and become active workers and home-builders.

Heretofore we have been cut off from the great world of trade and people by high mountain ranges, and the pioneers have moved slowly in development work. But now conditions are changing as if by magic. Our farms will be made producers because there will be a market. Our coal beds will be opened up to supply a demand for fuel. Our rich gold and copper mines will become producers because there will be a way to ship our ores. The vast area of oil lands will be proven to be producers because the oil will run by gravitation to the refineries to be built on the railroad. Increased energy and better methods will govern live-stock production because we will be in easy reach of shipping points and be enabled to take advantage of market conditions. In short, new life will be imparted to everything and all the people will be prosperous.



### **BIG HORN COUNTY**

Big Horn County lies in the northwestern portion of Wyoming, between the Big Horn Mountains on the east, and the Shoshone Mountains on the west, adjoining Montana on the north, and the Yellowstone National Park on the west. It covers an area 87 by 150 miles. It is practically the Big Horn Basin, the east and west lines following the apex of the two ranges of mountains above named.

The term "basin" carries a wrong impression to the stranger. It is really a basin nestled between the mountains, but it is not a level country. On the contrary, it is cut by numerous streams with narrow valleys, and in most instances with high "bad lands" lying between. The level, agricultural lands are a comparatively small part of the entire area, about a million and a half acres.

The principal stream, the Big Horn River, rises in the National Park and flows a little east of south for a hundred miles, thence nearly east for thirty miles around the Owl Creek Mountains, and thence northward into the Yellowstone River. The

stream is known as the Big Wind River, until it turns north and breaks through the mountains, from which point it is known as the Big Horn.

Commencing at the south line of the county, Owl Creek empties into the Big Horn from the west. Continuing north, the tributaries from the west are, in the order named: Gooseberry, fifteen miles, Gray Bull, and the Shoshone, or Stinking Water, as named on the old maps. This latter name was given it on account of numerous large sulphur springs that break out along its banks and, in one instance, in the middle of the stream, giving off a disagreeable odor that reaches for several miles.

Beginning again on the south the following streams flow into the Big Horn from the east, in the order named: Kirby Creek, No Water, No Wood, and Shell Creek. The No Wood rises in the Owl Creek Range, which forms the southern boundary of the county, and runs a few degrees west of north to a point near the center of the Basin, where it unites with the Big Horn. The land lying between the No Wood and the Big Horn is a wedge twenty-five miles across at the south end. Into the No Wood empty numerous spring runs, or small creeks, from the Big Horn Mountains; then come Cannon Creek, Otter Creek, Spring

Creek, Ten Sleep, and Paint Rock, all from the east or mountain side, making quite a river of the lower No Wood. All of these streams flow pure, cold water, save the No Wood, which, while made up of the finest mountain water, flows somewhat sluggishly and takes on sufficient alkali to taste quite plainly, but not enough to render it unfit for domestic purposes.

Each of the eastern tributaries of the Big Horn has a narrow valley, half a mile to a mile and a half wide, of exceedingly rich land in the first bottom, with more or less table or bench land on either side of a most productive character. Shell Creek rises at the foot of Cloud's Peak and has a beautiful valley of rich, irrigated land.

The bad lands lying between these streams are made up of broken, rolling, and level lands from one to four hundred feet above the beds of the streams and are generally well covered with salt sage, a small shrub six to eighteen inches high, with bunch grass in places. From Ten Sleep Creek south there is more grass, the hills being generally sodded.

Owl Creek heads at the junction of the Owl Creek Mountains with the Shoshone Range and has a level valley for about thirty-five miles, reaching to the Big Horn River. Gooseberry and Fifteen Mile are small streams with more good land than water for irrigation.

The Gray Bull rises in the Shoshone Mountains and meanders midst wild, grassy hills some thirty miles eastward, where it meets the salt sage country for thirty miles on toward the Big Horn. The valley lands, like those of the other streams, are very rich.

Twenty miles north of the Gray Bull flows the Shoshone, the largest tributary of the Big Horn. The various branches that form this stream rise in the eastern edge of the National Park.

The Big Horn River, after leaving the cañon or rocky passage it has cut through the Owl Creek Mountains, runs for seventy miles practically north, entirely across the county, and discharges into the Yellowstone River in Montana. The level, irrigable lands of the valley vary from a mile to six miles in width.

Just west of the Big Horn are numerous smooth table-lands, something like a hundred feet above the river. These flats are almost continuous for forty miles, ranging from two to four miles in width and are choice agricultural lands.

Between the Gray Bull and Shoshone Rivers there is a wide table-land, reaching back west to the foot-hills, embracing an area of half a million acres of choice farming land. There are a few high benches in this district, but nearly the whole region is irrigable from the two streams mentioned.

North of the Shoshone River there are, perhaps, 100,000 acres of good bench land that is available for agricultural purposes. Farther north, on the south bank of Clark's Fork of the Yellowstone, there are 50,000 or 60,000 acres of level land reclaimable by ditch from that stream, now in process of promotion—the nucleus of a prosperous settlement in the near future.

The foot-hills and mountain slopes on all sides are covered with a dense growth of nutritious grasses and the thousands of beautiful parks on top of the mountains are waving fields of inviting green. The mountains themselves are constant reminders of the beauty and harmony of nature and a soothing balm to the beholder. A glance at them cheers and makes the heart glad.

The cañons of the Big Horn River are attractions of the highest character that deserve a more special mention than our space here admits of. There are three—one of five miles where the river cuts through the Owl Creek Range; a three-mile gorge through Sheep Mountain, and one of twenty odd miles through the northern end of the Big Horn, or, as locally known, Pryor Gap. These are all

tumbling waters of magnificence, hemmed in by perpendicular walls of rock ten to fifteen hundred feet high, and will always be of peculiar interest to the lover of nature in her wild forms and capricious moods.

The mountains forming the eastern and western boundaries of the county vary from 8,000 to 13,000 feet above sea-level and give an exceedingly picturesque appearance from all points of the Basin. The altitude of the Big Horn Valley is 3,500 feet at the state line and 4,350 feet at Thermopolis.

#### AGRICULTURE

The agricultural possibilities of the county are simply wonderful, considering the limited area of the irrigable land—not more than one and a half million acres, all counted. The lands are rich, the crops certain, and the yields large. But the key to the situation is water. Nothing can be done without irrigation.

The conscious earth receives its saviour, water, and smiles. With proper culture wheat, oats, barley, rye, and all other grains adapted to temperate climates produce larger crops than the average of any other state in the Union. Potatoes, cabbage, and all of the edible roots and vegetables are at home and respond to suitable attention with aston-

ishing liberality of growth. During the autumn of 1905 a business man of Basin City asked the farmers to bring in samples of their best products for exhibition to incoming strangers. This is a partial list of same:

Largest Potato	7	lbs.
Largest Onion	23/4	66
Largest Tomato	$2\frac{1}{2}$	66
Largest Apple (Northern Spy), cir.	,143/4	in.
Weight	13/4	lbs.
Largest Table Beet	25	66

Alfalfa, red clover, timothy, red top, and all of the meadow grasses grow luxuriantly. Two crops a year of alfalfa and clover are always cut, and with good management a third cutting may be had that will yield a ton and a half to the acre. The average yield of alfalfa from two cuttings is four tons per acre, but six may be secured with proper attention to seeding and irrigation. In order to get the best results the seed must be put on thick and the ground thoroughly wet early in the spring. Alfalfa hay generally sells for \$4 per ton.

Forty bushels of corn can be grown to the acre on the bench lands, as they are free from frosts later than the first bottoms. Potatoes give a large yield—300 to 500 bushels to the acre—and are of a texture and taste different and better than those

of lower altitudes or lower latitudes of the same elevation. Tomatoes are unusually prolific in the central part of the Basin and grow smooth and large, with a flavor unexcelled anywhere. Four thousand pounds of choice Acme tomatoes were gathered off ten rows seventy yards long on the bench land near Hyattville in 1904, with no cultivation save pulling out the weeds. That shows what can be done with proper culture. Where such a crop of "Love Apples," as they were formerly called, can be raised, the question of soil and climate is settled. No more need be said.

Farmers who have raised corn believe that with properly selected seed fifty bushels can be grown on an acre.

Sugar-Beets are likely to become the most profitable crop that can be grown in the country when the railroads get into the beet land district. Beets grown on the No Wood River several years ago were sent to the State University at Laramie City for analysis and they returned 19% sugar. Thirty odd samples of beets grown in the vicinity of Lovell, Crowley, Byron, and Burlington (on the Gray Bull and Shoshone Rivers) were shipped to a Utah factory in 1904 and worked same as large lots are regularly treated, the average being 18½% sugar. This is the highest percentage of sugar ever found

in beets, and marks the Big Horn Basin as a great sugar producer in the near future. There are about 300,000 acres of ideal beet land in Big Horn County that will be easily accessible to railroad transportation, when the contemplated lines are built. They are located along the Big Horn River from the mouth of the Shoshone to Thermopolis; up the Shoshone and Gray Bull Rivers, and the broad plateaux between these streams; the bench lands west of the Big Horn and along the various small streams on the eastern side of the county. These lands are far more valuable than our people dream of at the present time. It may be stated as a fact undisputed that all kinds of substantial property is worth in cash on the market such a sum of money as it will pay over and above taxes and cost of maintenance the current rate of interest upon, where the property is located. Provided, of course, that it is situated in a country where government is established and the laws are duly enforced.

For instance, a house in any of the older states will sell for \$10,000 if it will rent for a sum sufficient to pay \$600 a year net, after paying taxes, repairs and a fair surplus for a sinking fund to replace the building at the end of the natural longevity of the structure. This being the recognized basis of values in all countries, there seems no good reason why it should not be applied here.

On this theory, Big Horn County land is worth such sum per acre as its annual crops will pay the current interest of 10% on, less taxes and cost of labor.

Under thorough culture farmers in northwestern Nebraska raise 15 to 17 tons of beets to the acre without irrigation and sell them at their railroad station for \$5 a ton flat. This is without an analysis to determine the percentage of sugar they contain, while the analysis practice prevails in eastern or rather central Nebraska. The beets of northwestern Nebraska contain more sugar, averaging about 13½%, hence more desirable and more profitable to the manufacturers.

In Big Horn County, with abundant water supply, 25 tons can be grown to the acre with no more cost for labor than is required in Nebraska and with no danger from drought or other known causes.

The highest cost of the most thorough culture and delivery of the product at the railroad in Nebraska is \$45 per acre, with a yield of 16 tons—\$80 gross, \$35 net. However, in the above figures of expense a rental of \$3.50 was charged, which, being added to the net, gives \$38.50 as the producing value of the land.

This amount of labor applied to Big Horn



BIG HORN HOT SPRINGS

Thermopolis, Wyo. Photo by Winchester Art Co., Thermopolis, Wyo.



County land will produce an average of 25 tons; the percentage of sugar would be 181/2 at least, instead of 131/2, adding 37% to the value of the raw product—making the value at the railroad station \$6.90 per ton, and raising the acre product to \$172.50 gross. Deduct the cost of labor and delivery to the depot, \$55 instead of \$45, as expense for extra hauling, and the net profit is \$117.50 per acre. This sum will pay the interest at 10% on \$1,175. This looks like a very high price or valuation to put on land, but there is no way to avoid arriving at that result. However, this is on the theory that the land will continue to yield the crop from year to year indefinitely. Of course, it will not do that. Starting with new lands, it will raise two crops of beets. Then seed it to alfalfa for two years, plowing in last crop. At the end of that time it will be ready for another two years' beet-growing and more productive than when it was virgin soil. This refertilization costs nothing. No high-priced commercial manures; simply disking in 20 pounds of alfalfa seed and letting the plant do its work.

A 160 acre farm of irrigable land, divided into two parts, will give 80 acres for a continuous beet crop, on two year changes, as experience has demonstrated. Meantime the alfalfa field would give hay from the first cutting for the few work horses, milk cows, and pigs required on the farm.

This division of the productive area of the farm cuts the above-quoted figures of valuation in half—makes whole tract worth \$587.50 per acre instead of \$1,175. And this is what every acre of accessible beet land in Big Horn County will be worth in time—when the railroads come. There will be a dozen sugar factories or more in the county before 1920. There is no danger of overproduction. The United States is short on sugar, producing less than one-fourth of our consumption. While production is likely to increase more rapidly during the next fifty years than does the population, it will be many decades before the home supply equals the home demand, if it ever does.

The exceptional texture and fine flavor of Big Horn County tomatoes will stimulate and make certain the development of an extensive canning industry in this line, and the extreme prolificness of the yield will make it a profitable crop over extensive areas outside of the beet-growing belts.

Hops are destined to become an important crop throughout the valley lands of the county. They grow wild in the low, sub-irrigated bottoms of all the streams, the yield and size of buds being abnormally large. The quality and strength of the dried hops have been proven by use in the family, and several breweries have tested them in a small way, which tests were extremely satisfactory.

Possibly it may seem to some readers that we have given the sugar-beet more attention in these pages than it is entitled to, and that our statements as to its profitableness as a farm product are extravagant. With such persons, if there are any, let us reason a little.

The United States Department of Commerce and Labor recently issued a bulletin in which the following passage occurs:

"The value of sugar imported during the eleven months of 1905 ending with November was \$148,575,345, of which \$51,485,256 was from the non-contiguous territories of the United States. The estimate is that the total sugar imports for 1905 will aggregate considerably more than \$150,000,000, while the highest figure in any fiscal year prior to 1905 was \$127,000,000 in 1894, when an unusually large quantity was imported in anticipation of a change in the tariff."

According to the same report, during the eleven months of 1905 we imported 4,750,000,000 pounds of sugar, and raised, or made at home, only 1,167-250,360 pounds, less than one-fourth of our importations. Again, unreasonable as it seems to the average person, the people of the United States consumed, in the year 1904, 75 pounds of sugar each.

Now, if we are only producing one-fifth of the

sugar we consume, and if our population is increasing at the rate of 2% annually, the increased demand on that basis alone will require 75 pounds for each unit of that increase. Figuring our present population at 80,000,000, the increase for the coming year will be 1,600,000. Multiplied by 75 gives us 120,000,000 pounds, with this amount growing larger each year.

Considering these cold facts, is there any apparent danger of Big Horn County, if every acre was devoted to beet-raising, "glutting" or "bulling" the market? With all of our agricultural possibilities taxed to their utmost, it will be many, many years before we supply our own "sweet tooth."

There are two principal reasons why the soils of the arid West are better, more productive, and hold up longer under the strain of continual cultivation than do the apparently richer soils of the humid states. First, the water running through ditches and scattering over the hills carries a certain per cent. of silt, which it deposits evenly over the irrigated fields, which is really a strong fertilizer itself. Second, Professor Hillgard, after thousands of analyses of the soil from the arid and humid regions, says: "The soils of the arid regions lying west of the one hundredth meridian, when compared with the soils of the humid region lying east of the Mis-

sissippi River, contain on the average three times as much potash, six times as much magnesia, and fourteen times as much lime. This is the scientific explanation of the superior productiveness of the arid regions of the West, which every intelligent observer has noted and marveled to behold."

Increased productive power and increased longevity are in themselves enough to give the West the blue ribbon.

### FRUITS

But little mention has been paid to the raising of fruits up to this time, but a few men have planted orchards and they are now coming into bearing and demonstrating that apples, cherries, and plums will do well and give a fruit of fine quality. One man has successfully grown peaches and pears, and numerous gardens attest the success of strawberries, raspberries, currents, and gooseberries. There is little doubt in the minds of those who have given the matter attention but that most, if not all, of the fruits grown in any of the northern states will prove a splendid success in all parts of the country.

### MINES AND MINING

The mineral resources of Big Horn County are very great, but as yet wholly undeveloped. Judging from present knowledge of the surface indications and the limited amount of work done, it is probably safe to say that there is a wider area of highly mineralized lands and more mineral wealth in the mountains surrounding Big Horn Basin than in any other part of the United States of twice the territory.

The Shoshone Mountains, reaching from the northern part of the state to the Owl Creek Mountains, 75 miles, and from 50 to 60 miles in width, are one continuous mineralized body. The ore ledges dip and rise from time to time along the summit of the range, but they have been proven to be practically continuous.

Cook City, just over the line in Montana, is the center of a camp covering many square miles and reaching far over the line into Wyoming. There are hundreds of claims taken in this district and clearly defined leads opened up that carry gold from \$10 to \$100 per ton. Lack of transportation has prevented development beyond the legal requirements of claim holders.

The Painter or Silver Tip mine is on the head of the north fork of the Shoshone River, 50 miles west of Cody. More than \$100,000 have been expended in prospecting and development work, and hope is not deferred to make the heart sick. Over 2,000 feet of tunnels have been run and many shafts sunk. The ores run \$22 in gold; 10 to 30 ounces in silver, and from 9 to 14% in copper. Samples of gold rock from this mine have taken premiums at many of the great fairs, and development work continues. With abundance of water and wood at hand there is no reason why this camp should not become one of the great Big Horn assets.

A little way south of this camp is the Sunlight district, 45 miles west of Cody. Stinking Water Peak seems to be the center of present prospecting work. A 12-foot vein of copper has been opened up to a depth of 50 feet, and ore carrying 62½% copper taken out. Gold is present in quantities varying from \$6 to \$50 per ton. The timber and water supply is ample for extensive milling and mining operations. A number of men are employed here and the work of testing the camp has been going on for a number of years, apparently to the satisfaction of the men behind the workers.

South of Sunlight a few miles is the South Fork or Shoshone mining district, lying along the south fork of the Shoshone River. Extensive croppings of leads are found carrying copper as high as 25%, gold from \$6 to \$25 per ton, and galena in liberal quantity. Needle Creek Tunnel has been carried into Crater Mountain 600 feet and will tap the vein

250 feet down. A rare metal used in hardening armor plate is found here that will reduce the cost of smelting very considerably, as it sells for \$6 a pound. Water, timber, and coal are at hand in abundant supply.

Camp Kerwin is located on the head of Wood River, a branch of the Gray Bull, 32 miles west of Meeteetse, and near the summit of the Shoshone Mountains. The camp as at present prospected covers an area 25 by 4 miles. Fifty claims have been pretty thoroughly prospected and all carry gold, copper, silver, and lead. The veins are declared to be true fissures, with foot and hanging walls. Shafts have been sunk and tunnels run in most of the holdings, and in every case the ore grows better as the depth increases. Veins run in width from 4 to 12 feet. The average value of the ore from 50 claims is \$100 per ton, but a small streak in a side spur to one of the main veins assayed \$128,000 to the ton, about one-third gold.

Several rich and new strikes were made in October, 1905, south of Kerwin, and the faith is strong that the same leads coming to the surface here will be found to extend to the head of Owl Creek.

There are five strong companies at work in the camp with money and credit, and a hundred men have been employed the past summer opening up the several properties. One of these companies is noted the world over for its careful and business methods in handling low-grade ores, which knowledge strengthens the general belief in the great future of the camp, for it is known that, after three years of examination by its experts and practical men, it has invested hundreds of thousands of dollars in the purchase of claims, and it is always ready to buy out the poor or discouraged claim holder. One tunnel is in 1,500 feet, and cuts vein 1,000 feet below the surface. Electric plants and the latest improved drills are in use and "the boys mean business."

The B. & M. Railroad has surveyed a route up the Gray Bull River to the foot of the mountain, six miles from the main camp, and presumably will build the road in the near future—when the camp has been a little more thoroughly prospected. At least the mine owners have been led to believe such is the intention of the railroad people. Kerwin certainly is a rising camp and will be heard from very soon.

## GOLD REEF

One of the first mining camps located in the Shoshone Mountains in Wyoming was the Gold Reef group, just over the divide from Kerwin, on Wiggins Creek, which is really the head of the Gray Bull River, thirty miles above Meeteetse.

The Anaconda is a 50-foot lead, carrying gold ore as high as \$24 per ton. The mammoth lead is 30 feet wide and runs as high as \$20 per ton. The Old Abe is a 22-foot vein with \$7.50 ore. These veins run parallel to each other and are traceable on the surface for over 4,000 feet. The ore is easily worked and even at a small profit gives promise of being another Home Stake proposition. Eighty-five thousand dollars have been spent in development work, and a tunnel has been cut into the mountainside 1,300 feet; which, according to the engineers' calculations, will reach the vein within the next 200 feet, giving a test of the ores at a depth of 1,400 feet. This tunnel will reach the three veins, thus proving the value of all. The work will be continued in the early spring, the owners of the mine being all wealthy Chicago people.

There is an ample supply of wood and water for milling purposes and the company owns mill and townsite lands. With the tunnel completed and 102 feet of solid ore to mill from, the possibilities of the outcome are simply surprising. This is really an addenda or annex of the Kerwin Camp and will soon be in close touch with the great Burlington railroad system, giving it transportation facilities. Gold Reef will be heard from in the near future.

Copper Mountain is a camp on the Owl Creek Range, on the southern edge of the county. The range begins at the head of Owl Creek, at the extreme southwest corner of the county, and extends for nearly a hundred miles east, where it joins with the Big Horn Mountains. The general elevation is about 8,000 feet. During the summer of 1905, prospectors found a wide ledge of copper-bearing rock near the east end of the range, and began prospecting it. Much of the ore ran as high as 40% copper, and some even better than 50%. It also carries from \$10 to \$20 in gold. Development work is being done-some short tunnels run and shallow shafts sunk. As the work progresses the showing of mineral becomes better and old miners are amazed at the showing. Four hundred thousand dollars have been offered for one group of claims, and expectations run high.

Another group of copper lies ten miles west of the above named, the leads not quite so wide, but carrying gold and copper in approximately the same proportions. Tunnels are being run and shafts sunk.

Lying between these copper leads are numerous free milling gold quartz veins 4 to 8 feet wide, that assay all the way from \$12 to \$2,000 per ton from surface rock. Much of the surface rock shows

specks of gold as large as small kernels of wheat and they are thickly scattered all over and through the rock. A look at these specimens is good for sore eyes, but unsettling to the mind of the man who has no claims.

The Big Horn River runs twenty miles to the westward and can be utilized for smelting purposes either in Big Horn County or in Fremont, just over the divide to the south. In truth, the summit of the mountain is the line dividing Big Horn and Fremont Counties and a part of each of these camps lies on either side of the line. The line has not yet been surveyed, so at this writing it is impossible to say just what proportion of the claims will be credited to Big Horn and what to Fremont. Ten thousand miners will probably visit these camps the coming summer, as railroads will reach either side of the mountain in the early spring.

The forty miles of Owl Creek Mountains lying west of the Big Horn Cañon are in Fremont County, but they are on the line and will contribute somewhat to Big Horn interests. This is in the Shoshone Indian Reservation and will be opened to settlement June 15, 1906. It is known to be equally as rich in minerals as the portion east of the river, but prospectors are not permitted to enter until after the reserve is thrown open, so no definite information can be given.

Gold placers have been found at several points along the western slope of the Big Horn Mountains, but no pay streaks have been opened. On top of the Big Horn, at many places, there are immense deposits of a gold-bearing cement formation that carry from \$2 to \$7 per ton. Thus far, however, no process has been tried by which the gold can be saved. It is what is known as flour gold and all escapes. Bald Mountain, at the northern end of the range, has a blanket of this cement 8 by 15 miles in extent, with an unknown depth, as the deepest hole is down but 35 feet. At several places south of Bald Mountain there are vast quantities of the same kind of cement-millions and millions of tons in sight. It is soft enough, generally, to be worked with steam shovels and thus be handled at a very small expense, if only the gold could be saved. At present, it is not an asset, but when we consider the wonderful achievements of the past fifty years in the way of improved machinery and methods of working low-grade ores it is not unreasonable to believe that some time in the near future a way will be found to profitably handle this rock. Should this take place, Big Horn, Johnson, and Sheridan Counties will have untold wealth, for the blankets and ledges lie on the line, a part in each of the three counties named. Could it be saved, there is more gold in the Big Horn Mountains than has been taken from the bowels of the earth since gold was classed as a precious metal.

Copper is found in many places in the Big Horn Mountains. Near the head of Paint Rock a clearly defined vein has been opened up by a 40-foot shaft, and a gray copper running \$40 per ton in copper and gold found. Nothing has been done here beyond the necessary assessment work. In this same locality there are croppings that look good to the prospector, but they are undeveloped.

Coal is a different proposition. There has been no geological survey of the county to determine the area of coal land, but it appears to the casual observer that fully one-fourth of the surface of the county is underlaid with black diamonds.

Mines are being worked in a small way at Garland, Cody, Meeteetse, Basin, Thermopolis, and all along the No Wood for over fifty miles. There are a dozen or more varieties or grades of coal varying from common lignite to semi-bituminous on the No Wood and semi-anthracite on the Shoshone near Corbet. The veins run from two feet at Corbet to twenty feet on the No Wood.

The bulk of these lands is still owned by the government, the largest area of located lands being in the vicinity of Thermopolis, where several thousand acres were located some years ago and sold to a Montana millionaire. Coal from one of the mines near Thermopolis was hauled to Casper some years ago and, after trial, pronounced a very fine locomotive quality. History repeats itself, and, like the coal measures of the East, all of these deposits will be needed and become valuable. Just how soon that time will arrive depends on transportation facilities and collateral development.

#### TIMBER

The mountains to the east, south, and west of the basin are more or less densely covered with a hard pine that makes fairly good lumber, but once off the mountains there is no wood save scattering cottonwood along some of the streams and occasional thickets of juniper on the bad land hills. This is largely used for fire-wood by the settlers, but coal is rapidly coming into general use by farmers, every community having a vein near by that can be easily opened for neighborhood use.

#### STONE

Sandstone of good quality is everywhere in abundance for building purposes, and in many of the mountain slopes granite is found. Marble of a very superior kind is found in the Big Horn Mountains and onyx has been gathered from half a dozen places, but so far not found in sufficient quantities to justify a belief that profitable quarries exist.

Limestone exists in vast bodies near the mouth of the Shoshone and in the southern part of the county and all over the foot-hills of the mountains on the eastern and the western sides of the county.

Cement of a good quality lies in vast bodies near Cody and many other places.

There are large deposits of gypsum of a high grade in parts of the county, that in time will be manufactured into refined products and shipped out. There are also vast quantities of the finest pottery clay suitable for the manufacture of china tableware. In fact, we are likely to find a hundred other valuable articles of commercial value in the bad lands and foot-hills that we know not of at present, for no prospecting has been done to ascertain what we have.

The largest deposit of sulphur in the world lies in the Shoshone Mountains, a few miles west of Cody. It covers thousands of acres and is on top of the ground—easily gathered. This will, in time, be a source of great revenue and add greatly to the business of Cody.



SUGAR BEET



#### LIVE-STOCK

Up to the present time the raising of live-stock has been the chief industry of the county. The county assessor's books show the following numbers of live-stock of various kinds, as per returns made in May, 1905:

Horses	 	 									13,134
Sheep.	 	 								2	26,603
Cattle.	 	 									56,956
Hogs	 			 		 					.1,777

Just how nearly these figures show the exact number of live-stock in the county will never be known, but the presumption is that it is about 80% of the actual holdings. The total of the assessment roll for the year 1905 is \$3,593,144, the bulk of which comes from live-stock.

While large areas in the Big Horn Valley and some of the valleys and bench lands on the tributary streams will be extensively devoted to beet culture and general husbandry very soon after the arrival of the locomotive, the raising of live-stock will continue to be a leading industry. The mountain slopes are covered with abundant and nutritious grasses and afford summer range for thousands of animals. The bad lands lying between the various water courses afford abundant winter range for the herds, unless covered so deep with snow that they

can not reach the grass and salt sage. This condition confronts us about once in ten years. The stock-grower, with his ranch or farm in the valley, raises from five to six tons of alfalfa to the acre and during ordinary years feeds but a part of his crop to the old and weak cattle, the strong ones living fat and slick all winter in the bad lands. Thus he can accumulate sufficient extra hay to carry his stock safely through when the deep snow comes. This is practical, because if the hay is well cured and properly stacked it will keep almost indefinitely in the open stackyard.

Thus the bad lands, which occupy so much of the country and are an eyesore to the stranger, are multipliers of land values along the streams. A small meadow provides winter feed for a large herd that roams the mountainsides and bad lands most of the year. This, under the old and present system of stock-raising, in the arid West.

But there is likely to come a new and better system. It has been demonstrated in Utah and Nevada that two and three-year-old steers will gain two pounds a day all through winter when fed on alfalfa hay alone. This can be done in Big Horn County as easily and as certainly as in Utah and Nevada, for climatic conditions are practically the same in all of the three states, and the climate is what does the

work. First, in properly saving the hay without the loss of sugar, starch and gluten; and second, the dryness of the air in the winter feeding season.

Here is a government report that is worth reading in this connection:

BEET PULP FOR FAT—IN CONNECTION WITH CORN, IT MAKES MOST VALUABLE RATION

Four lots of twenty steers were fed 100 days at the Wyoming station on a test to learn how beet pulp would produce flesh. One lot was fed alfalfa, corn chop, and beet pulp; another lot had alfalfa and corn alone; the third lot on hay alone, and the fourth lot on alfalfa and beet pulp.

In figuring the results, hay was figured at \$5 per ton, corn at 85 cents per hundred weight, and pulp

at 50 cents per ton.

Following are the results:

Lot No. 1—Alfalfa, 1,999 pounds; pulp, 9,433 pounds; corn, 662 pounds; gain, 263 pounds. Cost, \$12.95; profit, \$12.52.

Lot No. 2—Alfalfa, 3,127 pounds; corn, 662 pounds; gain, 176 pounds. Cost, \$13.43; profit, \$7.15. Lot No. 3—Alfalfa, 2,189 pounds; pulp, 9,729

Lot No. 3—Alfalfa, 2,189 pounds; pulp, 9,729 pounds; gain, 184 pounds. Cost, \$7.90; profit, \$10.97.

Lot No. 4-Alfalfa, 4,149 pounds; gain, 147

pounds. Cost, \$10.32; profit, \$5.76.

In figuring the cost and profit, every item was considered, including labor, freight, commission for selling, and yardage. Conditions were considered normal, as the feeding was done out of doors in open pens and during the coldest weather of the winter. The most remarkable point in the experiment is the addition to the profit made by the pulp.

In the iot fed the old way on corn and alfalfa, the addition of pulp made an increased profit of over \$5 per head.

The following figures show the amount of feed required in each lot to produce a pound of gain and the shrinkage on each lot per head between the feed lot and the market:

Lot No. 1—Alfalfa, 6.31 pounds; corn, 2.51 pounds; pulp, 35.52 pounds. Shrinkage, 57 pounds.

Lot No. 2—Alfalfa, 17.76 pounds; corn, 3.76 pounds. Shrinkage, 57 pounds.

Lot No. 3—Alfalfa, 1.89 pounds; pulp, 52.87 pounds. Shrinkage, 77 pounds.

Lot No. 4—Alfalfa, 28.15 pounds. Shrinkage, 53 pounds.

It will be noticed that in lot No. 1 the pulp cut down both the hay and corn very materially, and in lot No. 3 the hay was cut down over half by the pulp. Those fed pulp and hay alone had the heaviest shrink, while the cornfeds showed no difference in shrink because of the pulp.

This report shows but a pound and a half gain per day on alfalfa, as against two pounds per day in Nevada and Utah, as above stated; but, if the truth was known, this difference was probably caused by the difference in the quality of the hay fed. The feeders in Utah and Nevada have been in the business for years and have ascertained by actual tests the right time to cut their meadows. They always harvest their alfalfa the moment the blossoms begin

to show, thus saving all of the nutritious qualities and getting the hay in an appetizing condition. Wyoming ranchmen, as a rule, let their meadows stand until the plants are about all in bloom, and are notoriously careless about stacking it in good condition. The feeding value of alfalfa is reduced from 25 to 33% by the average ranchman, who poses as a farmer and stockman combined. With first-quality hay the two pound a day mark of gain can be easily secured, and that margin is the difference between a handsome profit and a disheartening loss.

However, accepting the government test as a standard for Wyoming, let us see what it means: Each ton of alfalfa produced 711/2 pounds of gain. With reasonably good care, 5 tons can be cut to the acre. The hav from each acre of alfalfa, then, will produce 3571/2 pounds of meat. This fed during the winter to two 1,100 pound steers gives them 1781/2 pounds additional weight and puts them on the market fat, at \$5.50 per hundred, as against 1,100 pounds in the fall at \$3.50 per hundred. The fall sold steer brings gross, \$38.50. The fattened steer brings in the spring, \$70.31, a difference of \$31.81, as the value of one acre of alfalfa less the labor of feeding, which is a small item if a number of cattle are in the feed lot. Deduct \$2 per ton for raising and feeding the hay, and we have \$21.81 as the net product of each acre of alfalfa. This pays 10% on a valuation of \$200 per acre for alfalfa-seeded land, and shows about the real value of all of our valley and bench lands away from railroads.

But the reasoning may be carried still farther, basing our statements on the government findings. Lot No. 3, as shown above, made a gain of 184 pounds on 2,189 pounds of alfalfa and 9,729 pounds of beet pulp. This cuts off \$4 from the hay value and adds \$2.37 for the pulp—giving \$1.63 additional profit, and adds 37 pounds to the carcass, worth \$2.03—a total increase of \$3.66 to the \$21.81 above specified, or a total net gain of \$25.41. If beet pulp is a cheapener of cattle feeding, how much more valuable would the beets themselves be before the sugar, the real fat-producing part of the beet, had been extracted. There is at present no exact way of ascertaining the value of an acre of sugar-beets as an adjunct to alfalfa for beef production, but it looks as if the outlying stock-raisers could increase their profit by raising and mixing beets with their hav for beef production.

When the old way of starving cattle through the winter is abandoned and full feeding takes its place, the hay lands will be advanced to their true place in the schedule of real property.

#### SHEEP

The "Basin country" is recognized as an ideal sheep-growing region and the flockmasters have been very successful as a rule. The flocks are taken to the mountains in summer and to the bad lands in winter. Here they hold their own and generally come out strong in the spring without feeding. There has been but one winter since 1886 that caused serious winter losses. The lamb crop varies from 75% to 85% and sheep owners have made money rapidly for a number of years. The failures have all been the result of poor management.

There has been some friction been the cattle and sheep interests, but this is now practically overcome—each class respecting the rights of the other.

Winter Feeding. With the advent of the rail-roads to the heart of the county will come extensive feeding operations, both of cattle and sheep. Abundance of alfalfa and beet pulp—the cheapest known fat producers—will bring this about on a large scale.

#### SWINE

Hog-raising has been given but little attention thus far in the history of the county, but it is destined to become an important industry. An acre of alfalfa will feed 20 hogs a year; that is, it will feed 4 breeding sows and their 20 pigs from May 1st to November, when the shoats will be ready to ship to the corn belt as feeders with the cattle, and the dry hay will keep the sows fat during the winter. Given a little bran slop for the first month, the pigs will start rapidly, and if they have all the tender, green alfalfa they can eat they will weigh about 150 pounds at the Omaha market the first of December. These pigs make ideal hogs to follow cattle and will sell at a premium above cornfed pigs. There is a greater "outcome," and they are always healthy—absolutely no risk if turned on feed lots free from disease germs. The cost of each 150-pound shoat will be less than \$2, if the business is systematized and carried on on a large scale, as one man with a mower, rake, and team will feed 2,000 head, save for the first month in the spring, while the sows are coming in and requiring slops. The sows should be placed in a dry field large enough to give freedom of action, with ditches at frequent intervals, and alfalfa mowed in adjoining fields and raked into the hog lot. Commence mowing when the grass is young and tender, and as the pigs grow, give them older grass. The young grass gives an abundant flow of milk to the sows and the pigs eat it with avidity after a few weeks of growth.

#### OIL FIELDS

The oil fields of Big Horn County are of wide area and of great promise. The Hyattville-Bonanza belt is the most extensive and the best known. It came into notice years ago by reason of an oil spring near Bonanza, where the early settlers gathered the crude oil and burned it in their lamps. It is a first-class illuminant, as the following analysis shows:

Analysis of Bonanza oil, crude oil specific gravity, 8446 (36° Baume), color red, strong green fluorescence; odor like kerosene; flashing point 13° C. (55° F.). Distillation into 10% fractions:

No. Bo	oiling poir	ıt.	Color	•.	
1 80°					
1142°	C.—177°	C.	Water v	vhite.	
3177°	C.—209°	C.	Water v	vhite.	
4209°	C240°	C.	Straw.		
5240°	C.—265°	C.	Darker y	yellow.	
6265°	C303°	C.	Darker	yellow,	slight
				orescence.	
7303°	C.—350°	C.	Redish	yellow,	stronger
				orescence.	
8350°	C.—380°	C.	Redish	yellow,	stronger

Gasoline20	to	25%
Kerosene55	to	60%
Light lubricating oils 5	to	10%
Paraffin 2	to	4%
Coke and loss 4		

9....380° C.-400° C. Red, bluish fluorescence.

10...400° C.

fluorescence.

7% collected.

"This is an exceptionally valuable oil and will give products much like the Pennsylvania oils. It will be observed that the first few fractions are perfectly colorless, although they have not been purified in any way. Usually all the distillates are yellow at first and have to be treated with acid and lye. There is no asphaltic residuum."

The oil from which the above analysis was made was gathered at the spring, and while it is correct, as to the sample, it is really deficient in the percentage of gasoline. It has been proven by a partial analysis that the oil, as it comes fresh from below, carries a larger portion of gasoline, this being so volatile that it rapidly escapes and leaves the accumulated oil in the spring showing less of this ingredient.

There have been some differences of opinion among oil experts as to the extent of this field, but surface indications and geological formation seem to assert themselves so strongly that there is no further doubt. This zone begins 8 miles south of Hyattville, at the foot of the Big Horn Mountains and continues northwest to a point in the Bad Lands north of Cowley, about 70 miles. The width of this belt is as yet a little uncertain, but it seems to be about 12 miles, possibly a little more than this. Oil springs and seeps appear at numerous points along Paint Rock Creek and at intervals along the

line all the way to Byron and beyond—thus indicating a continuous oil basin below. A short distance from Byron there is a gas leakage that is simply marvelous. A circle of perhaps 20 feet across bubbles with natural gas. A 1-inch gas-pipe was driven down about 3 feet in the center of this pool a year ago, projecting a couple of feet above the surface of the surrounding land. The gas escaping through this small aperture was lighted and has been burning ever since, giving off a 10,000 candle-light flame. If 1 inch of the space yields 10,000 candle-lights, what must be the amount from a surface 20 feet square? And what is there below?

Place a straight edge on the map, one end at Byron and the other at Hyattville, and along that line will be found several escaping gas-jets and dozens of oil seeps. Beside, the line is over almost a continuous coal bed. The conclusion is irresistible that this is the line of the oil zone. This, bear in mind, is the illuminating oil belt, the quality of the oil superior to any found elsewhere, either in the United States or other oil-producing countries.

There is an extensive zone of lubricating oil lying immediately west and south of the above-described territory. This zone first shows oil on the west side of the No Wood River near the foot of the Owl Creek Mountains, and numerous springs and

seeps come to the surface, thence extending northward as far as the vicinity of Bonanza. In fact, drillers close to the great Bonanza Spring found this lubricating oil at various depths from eighty to eight hundred feet, showing clearly that it comes from the oil basins to the south, and indicating that the Bonanza Spring draws its oil from the zone of illuminating oil to the east of that point. This is a remarkably pure quality of oil, and as the field reaches for forty or more miles, is destined to be a great source of revenue in the near future.

East and north of the Hyattville and Byron zone, as perhaps it should be called, there is a third zone, apparently of black, or fuel oil. No flowing spring has yet been found, but in one place on the Big Horn Mountains a deposit of half a million tons of asphalt is found, carrying sand and dirt, but yielding to assay 35% to 40% of asphalt. Unquestionably this is the residuum of a once-flowing spring of black oil—the wind and hot sun having evaporated the oil and left the asphalt to mix with sand carried by the wind. Thus far no attention has been paid to this field, but the asphalt came from below, and when proper search is made the source will be found.

There is also a deposit of this same kind of asphalt residuum found in the triangle between the illuminating and lubricating zones above described, in the Bad Lands, between the mouths of the Brokenback and Paint Rock Creeks, probably reaching back southeast into the Big Horn Mountains behind Ten Sleep and Spring Creeks. Thus the whole of the country east of the Big Horn River seems to be underlaid with oil.

There are oil indications around Meeteetse and Cody, but little attention has been given these, and hence there is little to be said at this time. That Big Horn County is to become the greatest oil-producing territory in the United States, no one who has given the subject thought and investigation doubts.

The oil fields all lay on lands so much above the railroad that, when developed, the product will run by gravitation to the road. Refineries will be built and the commercial product carried by the Hill system of roads for distribution over all the country lying between the great Lake Superior and the North Pacific coast, thus assuring practically a home market for vast quantities. As the Burlington road will be completed and running trains for sixty miles along the border of the oil belt by June 1, 1906, it is confidently believed that men with money will be on the ground in the early spring and take hold of the oil proposition in earnest. Geologists

say that there are three oil sands or basins, the third, or lower one, probably containing oil in greater quantity than the first and second. Hence the status of the district can not be determined until the drill has reached the third sand, presumably about 2,000 feet down. The market for this oil will be unquestioned, having the advantage of a short haul against a long one.

In 1903 and 1904 four wells were drilled near Bonanza, some of them as deep as 1,100 feet. The Whittier well is supposed to have found oil in satisfactory quantity, but an air of mystery and secrecy surrounded it from start to finish, and the hole being plugged, no reliable information is obtainable. The others were abandoned for lack of funds, or other reasons, before reaching the oil sands. The well at Bonanza, near the pioneer spring, was sunk to a depth of 800 feet, when some misunderstanding among the promoters occurred and the work stopped. Three or four oil seams were cut, and the drillers claim that ten barrels a day could be pumped. This is a superior quality of lubricating oil, as elsewhere mentioned.

#### IRRIGATION

The soil of valley, bench and so-called Bad Lands is generally rich, easily worked, and exceedingly productive when it is brought to life by the application of water. Any land growing the common sage brush, large or small, and all lands covered with the salt sage may be accepted as first class without question. Grease-wood land is more of a puzzle. Some of it is good, very strong—growing anything planted in great abundance and perfection—while other patches of it have a "gumbo" soil that is very difficult to handle and really undesirable. Fortunately there is comparatively little of this in sections where irrigation is practicable.

Irrigation is a necessity and land without water is of little value. Big Horn County has more available water than any other county in the state, the mountains on every side being constant, everlasting sources of supply. A few people are contending that "dry farming" will eventually prove a success throughout the arid West, under what is known as the Campbell system. To this theory we plead pessimistic. The conservation of the moisture in the land by the pulverizing process is all right, but the moisture must be in the earth before it can be conserved. The Campbell system will do the business in a region where there are 12 to 15 inches of

rainfall that "goes into the ground," for by that system it can be held in place. But in the Big Horn Basin the unplowed land is dry—the limited rainfall largely running off and the hot sun evaporating what penetrates the surface to a small depth. After years of successful irrigation and the wetting of the land to a considerable depth, the amount of water necessary to produce a full crop will be greatly reduced and some additional lands may be made productive. Hence, the men coming to buy farming lands should assure themselves that a water-right from the state, giving the full legal allowance of a cubic foot per second for each seventy acres, has been secured and attached to the land as an inseparable part thereof.

## PUBLIC LANDS

There are many thousand acres of public land in Big Horn County, but, as stated elsewhere, the best, or most available, has been taken by the present settlers. The Homestead Law gives every male citizen of the United States the right to file on one hundred and sixty acres of the public domain, and secure title thereto, after a five years' residence thereon. Under this law, no specific amount of improvements are required, but it must be taken in good faith for the purpose of making a home. A

TYPICAL WYOMING RANCH HOME



single person, if poor and obliged to work for others to gain a living, may be absent from his claim at least one-half of the time. If a man of family, his wife must practically live on the place. Single women, and widows who are the head of a family, may take up homesteads and be subject to the same rules that govern the men.

The Desert Land Law is still in force, and under its provisions one may file upon 320 acres, if he or she has not had the benefit of the Homestead Law. If a homestead has been taken, the desert claim is cut to 160 acres. Under this law, you have got to place the land under ditch, irrigate, and raise a crop on parts of each 40-acre legal subdivision within four years. A payment of 25 cents per acre is required at the time of filing and an additional \$1 per acre when you prove up at the end of four years. The filing fee on a homestead is \$16, if filing is made at the land office; if before a county clerk or United States commissioner, \$5 extra. Final proof, \$15 to \$20, owing to cost of advertising and witnesses.

The Timber and Stone Act is also in force, under which a filing of 160 acres may be made, if the land is more valuable for timber or stone than for agriculture. The price of this is \$2.50 per acre.

Mineral lands, under which title oil lands are located, are subject to filings of 20 acres. The lands

have to be surveyed and staked, notices posted thereon, and a filing made with the county clerk. The cost of this varies from 50 cents to \$1 an acre, owing to whether one or eight persons file jointly, and the number of claims taken. The Mining Law differs from all other United States land laws in that you are not limited to one claim, but may file on as many as you can find and have the money to pay the expenses of. When the land is proven to be mineral land you can purchase it from the government at \$2.50 per acre. Meantime, you are required to do \$100 worth of assessment work on each claim after the first year, until you prove up and secure title. In mineral filings the year commences the first of January. To illustrate: If you file in January you are exempt from assessment work the balance of that year. During the second year, dating always from January 1st, you must at some time during the year do your assessment work and file notice with the county clerk, or your claim is jumpable January 1st following.

There is one other way to secure title to government land, viz., by the location of what is known as "lieu scrip." This is a scrip issued to certain persons in lieu of other lands taken by the government from individuals for various purposes, mostly from settlers on the forest reserves who held claims

and moved off when the reserve was opened. This scrip is largely issued in 40-acre tracts and sells at from \$5 to \$6 per acre. It can be laid on any vacant land not known to be mineral, but the price is beyond the means of the average Western home seeker.

# SEGREGATED LANDS

There is another class of lands in the arid West besides those named above, known as "Segregated Lands." Some years ago Congress passed an act known as the Cary Bill, introduced and pushed by Senator J. M. Cary, of Wyoming. This law gives to each of the arid states 1,000,000 acres of land, provided they will reclaim the same by irrigation. The legislature of Wyoming enacted a law whereby ditch companies might file upon the waters of the streams of the state for irrigation purposes, specifying the land to be irrigated on maps filed with the State Land Board, and naming the price per acre for which they would sell water to settlers. When the plans and bonds of the ditch companies were accepted by the State Board, the secretary of the interior, at Washington, withdrew the lands under the ditch, "segregated them," and set them over to the state in which they were located. Under the Wyoming law, a homestead of 160 acres of these segregated lands may be taken when the applicant shows certificate of purchase of a water-right from the ditch company controlling the water. The state makes the price of the land fifty cents per acre, one-half payable at time of filing, the balance at the end of four years, on proof that he has placed the same under irrigation and cultivation.

Accepting these conditions and requirements, ditch companies have organized to convey water upon Big Horn County lands as per the followingnamed list; the aggregate area being in round numbers 400,000 acres.

# IRRIGATION CANALS OF BIG HORN COUNTY COVERING SEGREGATED LANDS

Big Horn County Development Company. This Company is taking water from the south fork of the Shoshone River, through a thirty-foot ditch. The water is carried to what is known as the Oregon Basin, a wide depression that will store an ample supply for the 243,000 acres under the ditch. Hundreds of men and teams and a number of steam dredges are now at work excavating, and by Jan. 1, 1907 the canals, dams, locks, etc., will be complete, ready for the application of water to practical irrigation. The cost of the work will be \$3,000,000 and

the benefits to the country many multiples of that sum.

Practically every acre of the land lying under this ditch is first class in character, being bench land free from alkali and having just sand enough to render it easily worked and to hold the heat of the sun's rays in summer for night growth of crops planted. It is largely ideal beet-growing land and will yield alfalfa and all of the grains, grasses, and roots in abundance at the minimum of expense for labor.

The lands are located southeast of Cody, beginning twelve miles out and reaching twenty odd miles eastward from that point. The people of Cody are getting ready to build an electric railroad to the heart of this tract as soon as the water is turned on, thus placing the farmers in hourly contact with a market. While a few sections have been sold, the lands under this canal are really not on the market, and will not be until the work is completed, early in 1907. This is, perhaps, the largest ditch enterprise undertaken by private capital in the arid region, but it is well on the road to success and its completion during the present year is assured. Once the water is turned in and the lands are offered for sale, a large and prosperous community will come into being as if by magic.

Hanover Canal. This great ditch is taken from the Big Horn River twenty miles below Thermopolis and carries the blessings of life and perpetual sunshine over 50,000 acres of as rich and productive land as lays anywhere "outdoors." The land is on the east side of the Big Horn River, with the town of Worland as a central market. From every homestead the Big Horn Mountains on the east and the Snowy Shoshone and Rockies on the west are visible, with the Owl Creek Range seemingly ready to fall over upon you from the south.

The Burlington Railroad is pushing up the river through the Hanover lands, and when the coming summer's sun rises over the Big Horn Mountains, the first gleam will light upon the iron horse snorting to be away with all speed to bring in the thousands of land-hungry people waiting just over the border. The character of the land and location is simply ideal, and nothing more need be said. The ditch is practically completed and the land on the market. The coming summer will see the bulk of this tract under fence and much of it in cultivation.

Big Horn County Canal Company. This Company is employing hundreds of men and teams and in the early summer of 1906 will have its forty-foot ditch complete. The head-gate is near that of the Hanover Canal, but the water covers 50,000 acres of

land on the west side of the Big Horn River, just opposite the Hanover holdings. The lands are mostly bench land, 50 to 100 feet above the river, and are equally fertile with the bottom lands. The railroad passes up the valley just across the river, but none of this Company's holdings will be more than 5 miles from the railroad track, thus being in easy reach of shipping points. The canal reaches down the river to Basin City, the county seat, and covers all the bench land between that point and Worland, thirty miles to the south.

These lands will be offered on the market the coming summer, and possibly water may be turned in early enough to irrigate a crop this year. With this ditch completed, there will be a continuous settlement from Basin City to Thermopolis, seventy miles, farm fences and green alfalfa fields joining for all that distance. Then will "ye old-timer" be in a strange land—but happy just the same—for they are all believers in the goodness of the Basin county.

Lovell Irrigation Company. This Company has taken out a ditch on the south side of the Shoshone River, twenty miles above its junction with the Big Horn, that will water 40,000 acres. The land is of a superior quality and has mostly been taken by settlers from Utah, the ditch being the result of a

Mormon settlement. Just opposite this settlement, on the north side of the Shoshone, the same people have taken out.

The Sidon Canal. This canal is 36 miles long and irrigates 18,000 acres. This work was completed three years ago and the land is all located and in process of development. The homes have been taken in 40 to 80, 120, and 160-acre tracts, so that the settlement is really a "populous community," reminding one of the East, save that the buildings are less pretentious. Success has attended every experiment in the raising of grain, hay, vegetables, and small fruits. Apples, cherries, and plums made good yields last year for young trees and, no doubt, are clearing the minds of the settlers as to the success of most, if not all, northern varieties of fruit.

The Germania Canal. The Germania Canal was taken out of the Gray Bull River some ten or twelve years ago and covers 14,000 acres of high, level bench land lying between the Gray Bull and Shoshone Rivers. This land has all been settled upon by a thrifty class of people, mostly Germans, and the desert has truly been made to blossom as the rose, and prosperity is manifest at every home, notwithstanding the many hardships of the pioneer days when there was no market and the supply station a hundred miles away. The farms are not for sale and that spells contentment.

The Cody Canal. This ditch covers 20,000 acres of choice bench land and is taken from the Shoshone River. The town of Cody is located on the lands under this ditch, and as all of the land has been sold, the ditch company will turn the corporation over to the water holders—the farmers under the canal—who will control the enterprise from this time forward. The land covered by this canal is all exceedingly productive and has been a large factor in supporting and building up the town of Cody.

The first few years were a period of doubt and discouragement, but the outcome has been all that could be desired and the faith of the stayers is fully justified. Land values are advancing and conditions growing better from year to year. Few farms are changing hands, because the occupants are satisfied and believe in the brilliant future of the community.

The Hubard Canal. This is an enterprise in process of promotion. The survey is made and the plans perfected. The water is to be taken from Clark's fork of the Yellowstone and the ditch will be 48 miles long. It will cover 50,000 acres of land on the south side of the river, all of good quality and nicely situated for irrigation. The proposition is a good one and very soon the necessary funds will be ready for development work. So practical an enterprise can not long hang fire for want of capital to carry it to fruition.

There are hundreds of local individual and community ditches covering from 160 to 5,000 acres on the various streams, aggregating, perhaps, 75,000 acres, every farm being partially improved with side or lateral ditches and more or less land seeded to alfalfa and devoted to grain-raising.

## GOVERNMENT IRRIGATION

The United States Arid Land Reclamation Bureau has let the contracts and begun the work of building what will be the highest dam in the world—210 feet—at the cañon of the Shoshone River. The dam will be built of granite and cement, forcing the pent-up waters of the stream back for eight miles, and holding in the great reservoir sufficient to irrigate 120,000 acres of land lying on the north side of the Shoshone River, and extending from near Cody eastward to and all around the town of Garland.

The water will be drawn from the reservoir through a tunnel several miles long, and spread out on the lands below. Work on the dam and tunnel is already under way, but the job is so immense that two or three years are likely to pass before crop-raising will be commenced. Meantime there will be much activity in and around Cody as the result of so many men being employed. The lands will

be sold to actual home builders in 80-acre tracts, each carrying a perpetual water-right, at the actual cost of securing the water, on small yearly payments, so that the poor man may be able to take advantage of the opportunity. The secretary of the interior has set aside something over \$3,000,000 for the great work and everything connected with it will be done in the most substantial manner.

Whistler Creek. Government engineers have made a careful survey of some 40,000 acres of choice land on Whistler Creek, twelve miles south of Garland, and their report is very encouraging. Undoubtedly, this will be covered by a government ditch, but at this time plans have not been fully matured and no definite announcements can be made.

The government is also investigating other propositions in the county that, if finally approved, will add 300,000 acres to the productive area of this region.

Besides the above-mentioned undertakings, there are perhaps 200,000 acres of first-class land lying along what we may call dry creeks; that is, streams that run full in the spring and go dry in summer, save an occasional spring where cattle drink. By the construction of a series of earthen dams along these dry beds, reservoirs of small capacity may be made and sufficient water stored to make the valley pro-

ductive. The dependence in these cases, of course, is the flood-waters, the measurement of which is somewhat uncertain. Hence, these lands are likely to be the last to be brought under water, notwithstanding that in many cases the cost will be comparatively small.

Thus it is plainly to be seen that when these several enterprises are carried to their conclusions, the agricultural resources of Big Horn County will be vast in extent and hold an imperial place in the social and political control.

Of the 1,500,000 acres to be put under the plow, fully one-third will be found to be specially adapted to the culture of the sugar-beet, and not less than twenty factories, working up the product of 8,000 acres each, will be established at the various railroad stations. Sixty dollars an acre for this 160,000 acres, the amount paid for labor of production, all going into the hands of the working people, means \$9,600,-000 disbursed yearly in the county for actual living expenses of the working men and their families. This, again, means the distribution of that sum among the business men and the farmers outside of the beet-growing districts, and, naturally, a boundless prosperity among all those classes. Carried to its legitimate conclusion, it means one of the richest and most prosperous of all the counties in

the United States, barring a few in which are located the great commercial centers, like Chicago, New York, etc.

#### CLIMATE

The climate of the Big Horn Basin is ideal in every respect. Sheltered by the high mountains that surround it, the storms that gather in other sections are cut off, leaving the country free from extreme atmospheric disturbances, save those that gather within its own boundaries. Mercury rises to 100 degrees at rare intervals in summer, and drops to 30 and 40 degrees below zero in winter. But the absence of moisture in the air at all seasons renders these extremes harmless in their effects. Men work in the open field the hottest days with little discomfort because, when the night comes, "tized Nature's sweet restorer, balmy sleep," wraps them in her embrace and morning finds them fresh and full of renewed vigor and activity.

So the cold days of winter, few in number, are accompanied by dry air that seems to shield one from the effects of biting frosts experienced in the lower and damper altitudes. During the winter of 1904-05 there were but three days when men working outdoors did not hang their coats on the fence and work in their shirt-sleeves. A dry, cold atmos-

phere is conducive to health and a hot, dry air is not uncomfortable.

The usual rainfall of the Basin is not to exceed 10 inches, mostly coming in the spring. Seven winters out of eight the snowfall never reaches more than 3 or 4 inches in the valleys and lower bad lands—this on account of its dryness blowing into drifts in the gullies and leaving much of the land uncovered. About one year in eight or ten snow falls to a depth of 10 to 15 inches and remains from 30 to 90 days, making it necessary to gather in the cattle and feed them hay. While this is something of a hardship, the losses are light because of the abundance of alfalfa being grown and held over for just such emergencies.

The crowning glory of the climate is the almost perpetual sunshine. This is a healing balm to the nerves and makes the average citizen feel that it is good to be alive. As a result of the climatic conditions, the healthfulness of the country is all that could be desired.

The following record of the heat and cold, kept by William Booth, of Paint Rock Creek may be considered official, as he was appointed by the Weather Bureau of Washington, and has standard thermometers. However, it really gives an erroneous impression, because every day when there was a pass-

MOVING THE WOOL CLIP



ing cloud that cast but a momentary shadow over the instrument, is marked as "partially cloudy," when, in fact, the sun shone bright all day, except the five or ten minutes of a passing cloud that left no moisture in its wake.

# CLIMATE OF THE BIG HORN BASIN JANUARY

D	ATE.		1	TOTTEST.		COL	DEST.		
Jar	1.	1 2 3	24	degrees	7	44	66	44	Partially Cloudy.
66			30	"	6	66	66	66	Clear.
66		4	35	"	4	66	"	66	Partially Cloudy.
66		5	30	"	1	66	66	66	Clear.
46		6	33	66	4	44	66	"	66
66		7	47	"	12	66	66	66	46
66		8	48	44	13	66	66	"	46
66		9	35	44	15	66	"	"	"
66	1	0	38	66	3	66	66	44	Cloudy.
66		1	40	46	11	64	44	"	Clear.
66		2	33	66	19	66	44	66	Cloudy.
66		13	50	"	17	66	44	46	"
66		14	53	66	18	46	"	44	Clear.
66		15	40	66	24	"	66	44	""
66		16	47	66	20	"	66	66	46
66		7	45	66	28	44	64	66	
66		18	37	66	13	66	66	66	46
66		19	25	66		66	below	66	cc
66		20	26	"	2 4 7	66	above	44	"
66		21	27	66	7	46	"	44	Partially Cloudy.
66		$\frac{1}{2}$	30	66	1	66	66	66	"" Cloudy.
66		23	35	66	3	66	66	66	Cloudy.
66		24	$\frac{33}{24}$	66	4	66	below	66	Clear.
66		25	28	66		44	above	66	Partially Cloudy.
44		26	$\frac{20}{22}$	66	2	66	below	44	Cloudy.
66		27	28	66	8	46	bero w	66	Croudy.
66		28	35	66	1 2 8 9	"	above	66	" -Snow.
66		29	$\frac{30}{40}$	66	21	66	above	66	-5110W.
44		30	35	66	5	66	66	66	46
		,	00		1 3				

## FEBRUARY

DAT	DATE.		HOTTEST.		COL	DEST.		
Feb.	$\frac{1}{2}$	35 c	legrees.	20 5	degrees	above	Zero.	Cloudy-Blizzard. Clear.
66	3	35	66	2	66	66	"	Clear.
66	4	47	46	16	66	66	"	Partially Cloudy.
44	5	50	66	30	66	"	66	Cloudy.
"	6	37	"	$\frac{30}{12}$	66	66	66	Clear.
"	7	20	66	1	"	66	66	cicai.
66	8	32	66	4	46	below	"	46
66	9	15	66	10	66	""	44	Partially Cloudy.
66	10	$\frac{10}{32}$	66	6	66	"	44	Clear.
"	11	45	66	10	44	above	44	Partially Cloudy.
"	$\overline{12}$	50	66	29	"	40010	44	"" ""
66	13	40	46	13	"	α.	46	u u
66	14	37	"	$\tilde{2}$	"	"	"	Clear.
"	15	32	"	1	46	"	66	Cloudy.
66	16	55	"	17	66	44	"	"
66	17	45	"	20	66	"	66	"
66	18	40	"	18	66	"	66	Clear.
"	19	45	66	15	"	"	66	"
"	20	35	"	24	"	66	"	Partially Cloudy.
66	21	40	66	6	"	"	66	Clear.
66	22	60	"	29	"	"	44	Cloudy.
66	23	50	"	27	44	"	66	Partially Cloudy.
66	24	55	"	29	"	"	66	" "
66	25	52	"	21	44	"	66	Clear.
6.6	26	70	"	21	"	46	66	"
66	27	52	66	34	44	44	66	Partially Cloudy.
66	28	42	"	27	"	"	"	Clear.

MARCH

ĐA'	DATE. HOTTEST.		COLDEST.					
Mar.	. 1	60	degrees.	29	degree	sabove	Zero.	Cloudy,
6.6	2	44		15		"	"	Clear.
44	3	40	44	28	"	46	"	"
46		55	66	29	"	46	44	Cloudy.
66	4 5	49	44	23	44	"	66	""
44	6	60	"	28	66	46	44	Partially Cloudy
66	$\ddot{7}$	63	44	36	44	66	44	" " " "
46	8	65	"	32	44	46	44	Cloudy.
44	$\tilde{9}$	53	"	28	66	44	66	Partially Cloudy.
66	10	47	66	5	"	46	66	"" Cloudy.
44	11	58	44	32	"	46	44	Cloudy.
66	12	42	"	21	66	44	44	""
46	13	45	66	21	"	"	44	Clear.
66	14	50	44	23	44	66	4.6	Partially Cloudy.
66	15	60	"	29	"	66	66	Clear.
66	16	48	"	23	66	44	66	""
66	$\overline{17}$	60	66	$\frac{1}{23}$	"	"	"	Cloudy.
66	18	60	66	31	44	"	"	", "
66	19	59	44	26	44	"	66	Partially Cloudy.
66	20	48	44	$\frac{1}{34}$	66	"	66	"" "" ""
66	21	50	44	20	"	"	66	и и
"	$\overline{22}$	47	46	19	66	"	66	" "
46	23	60	"	29	66	44	"	Cloudy.
66	24	45	"	7	44	44	46	"
66	25	22	"	13	44	below	44	Clear.
"	26	32	44	3	"	"	"	Cloudy.
"	27	40	"	7	"	above		"
66	23	60	66	25	44	"	"	Clear.
44	29	61	46	30	44	"	"	Partially Cloudy.
44	30	60	46	31	"	66	44	Cloudy.
66	31	59	"	26	44	66	44	Clear.

APRIL

DATE.	HOTTEST.	COLDEST.	
April 1	55 degrees.	24 degrees.	Clear.
2	60 "	29 "	11
" 3	64 "	28 "	"
" 4	70 "	28 "	Partially Cloudy.
" 5	63 "	25 "	Clear.
" 6	49 "	36 "	Partially Cloudy.
" 7	45 "	26 "	"" ""
" 8	48 "	17 "	Clear.
" 9	65 "	23 "	cicai.
" 10	63 "	29 "	66
" 11	67 "	30 "	66
" 12	70 "	29 "	66
" 13	73 "	38 "	66
" 14	80 "	38 "	"
" 15	63 "	24 "	"
" 16	53 "	18 "	"
" 17	75 "	27 "	"
" 18	70 "	29 "	Dominila Clouder
	80 "	46 "	Partially Cloudy.
" 19			Claudia
" 20 " 21	(10)	1 01	Cloudy.
21	] 98	1 00	D
23	55	31 "	Partially Cloudy.
40	1 97	29 "	Cloudy.
24	1 00	94	Clear.
40	1 00	95	
40	1 70	90	"
41	89	59	
28	111	4.0	Cloudy.
49	10	1 50	Clear.
" 30	68 "	40 "	

MAY

DA	TE.	но	TTEST.	co	LDEST.		
						-	
May	y 1	75 d	legrees.	30 de	egrees.	Cloudy.	
	$^{2}$	70	"	41	·"	"	
66	3	54	66	40	44	"	
66	4	73	46	35	46	"	
66	5	65	44	40	"	Clear.	
66	6	72	66	37	46	Partially	Cloudy.
4.6	7	64	66	34	44	Clear.	Oloudy.
46	8	60	"	29	"	"	
44	9	73	"	33	"	"	
"	10	75	44	43	66	Cloudy.	
66	11	73	46	33	44	""	
66	$\overline{12}$	65	66	28	66	Clear.	
66	13	64	66	24	44	"	
66	14	70	44	36	44	"	
44	15	72	44	37	44	"	
66	16	75	"	33	44	"	
66	17	77	44	29	66	Partially	Cloudy
66	18	80	44	45	44	Cloudy.	Cloudy.
"	19	82	66	45	"	Cloudy.	
66	20	71	"	49	66	" т	Rain.
66	21	75	44	49	"	Clear.	cam.
66	22	82	44	43	66		C11
66	23	83	44	39	46	Partially	Cloudy.
66	24	69	44		"	Clear.	
66	25	49	46	36	44	Cloudy.	
66			"	32	"	CI	
66	26	70	46	30	"	Clear.	
"	27	80	"	33	"		
"	28	83	46	46	"	"	
66	29	80	46	38	"		
"	30	85	"	43		Cloudy.	~ .
- "	31	82		46	"	Partially	Cloudy.

JUNE

DATE.	HOTTEST.	COLDEST.	
June 1	81 degrees.	47 degrees.	Partially Cloudy.
June 1 2 3	70 "	43 "	Clear.
" 3	65 "	38 "	Partially Cloudy.
" 4	63 "	43 "	Cloudy.
" 5	70 "	34 "	Clear.
" · · · · · 6	80 "	48 "	"
" 7	79 "	46 "	Cloudy.
" <sup>8</sup>	62 "	47 "	""
" ğ	76 "	41 "	Clear.
" 10	75 "	32 "	""
" 11	80 "	39 "	66
" 12	90 "	48 "	66
" 13	85 "	46 "	66
" 14	95 "	47 "	66
" 15	93 "	48 "	Partially Cloudy.
" 16	92 "	48 "	""
" 17	98 "	53 "	Clear.
" 18	80 "	49 "	
" 19	85 "	52 "	"
" 20	94 "	45 "	"
" 21	93 "	55 "	66
" 22	80 "	46 "	Cloudy.
" 23	64 "	40 "	"
" 24	80 "	32 "	Clear.
" 25	85 "	40 "	Partially Cloudy.
" 26	86 "	41 "	Clear.
" 27	92 "	52 "	
" 28	93 "	48 "	44
" <u>2</u> 9	97 "	48 "	+6
" 30			

JULY

	1		1
DATE.	HOTTEST.	COLDEST.	
July 1	90 degrees.	57 degrees.	Clear.
" 2	90 "	1 70	Cloudy.
" 3	80 "	51 "	Clear.
" 4	85 "	47 "	Cloudy.
" 5	75 "	50 "	
" 6	80 "	44 "	Clear.
" 7	95 "	47 "	
" 8	90 "	50 "	Cloudy.
<b>"</b> 9	90 "	47 "	
<b>"</b> 10	95 "	53 "	Clear.
" 11	96 "	51 "	
" 12	85 "	52 "	Cloudy.
" 13	72 "	50 "	1
" 14	87 "	43 "	Clear.
" 15	86 "	55 "	66
" 16	90 "	43 "	"
" 17	94 "	40 "	"
" 18	93 "	43	"
" 19	93 "	49 "	
<b>"</b> 20	96 "	52 "	Cloudy.
" 21	95 "	50 "	Clear.
" 22	96 "	52 "	"
" 23	90 "	92	
" 24	92 "	95	Cloudy.
" 25	95 "	1 90	Clear.
" 26	97 "	50 "	Cloudy.
" 27	97 "	54 "	
" 28	90	90	Clear.
" 29	85 "	40	"
" 30	90 "	43 "	
" 31			
	1	,	·

AUGUST

DATE.	HOTTEST.	COLDEST.	
Aug. 1 2 3 4 5 6 7	91 degrees. 95 " 90 " 90 " 90 " 94 " 95 " 90 "	49 degrees. 50 " 60 " 49 " 51 " 48 " 50 "	Clear, " " " " " " " " " " " " " " " " " " "
" 10 " 11 " 12 " 13 " 14 " 15	86 " 95 " 96 " 98 " 95 "	54 " 55 " 52 " 58 " 59 " 57 "	Partially Cloudy. Cloudy. Clear. " Cloudy. " "
" 17 " 18 " 19 " 20	95 " 87 " 88 " 80 " 74 "	50 51 " 50 " 49 " 45 "	" " Clear. "
" 23 " 24 " 25 * 26 " 27 " 28 " 29	80 " 85 " 86 " 87 " 95 " 90 " 95 "	42 52 50 49 50 52 45	" Cloudy. " Partially Cloudy.
" 30 " 31	90 " 85 "	51 52	Cloudy.

SEPTEMBER

DATE.	HOTTEST.	COLDEST.	
Sept. 1	79 degrees.	42 degrees.	Clear.
2	75 "	39 "	"
" 3	80 "	42 "	46
4	76 "	42 "	**
5	85 "	41 "	
6	95 "	40 "	
4.0 = ==================================	85 "	50 "	
	95 "	60 "	a
8	93 "	55 "	Partially Cloudy.
10	85 "	55 "	Clear.
" 11	77 "	30 "	
" 12	67 "	43 "	46
· <del>·</del> 13	65 "	42 "	46
" 14	80 "	20 "	"
" 15	79 6	39 "	
" 16	90	43 "	"
" 17	85 "	11 "	"
" 18	90 "	43 "	"
" 19	70 "	40 "	Cloudy.
" 20	71 "	33 "	Clear.
" 21	80	38 "	"
" <u>22</u>	82 "	47 "	Cloudy.
" 23	83 "	40 "	Clear.
54	83 "	39 "	"
25	80 "	38 "	66
26	76 "	43 "	44
27	75 "	43 "	st .
28	76 "	33 "	Cloudy.
50	70 "	38 "	
30	72	49	46
		U T	

## OCTOBER

DATE.	H	TTEST.	CO	LDEST.		
Oct. 1	80 d	legrees.	42 6	legrees.	Clear.	
" 2	80	**	40		"	
" 3	77	64	43	44	66	
" 4	65	64	43	6.6	46	
" 5	80	66	32	66	D(!-11 -	C1 1
" 6	68	64	35	66	Partially	Cloudy
" 7	74	66		66	Clear.	
" 8	65	66	38	66	"	
" 9		66	28	*6		
i)	63	44	25	66	Cloudy.	
.1.0	68	44	22	44		
1 1	62	44	34			
14	60		28	44	Partially	Cloudy.
10	68	44	20	4.6	Clear.	
" 14	72	44	28	44	**	
" I5	62	4.4	28	44	46	
" 16	42	44	22	6.6	Cloudy.	
" 17	40	66	8	44	Clear.	
" 18	52	44	11	44	**	
" 19	67	66	17	44	64	
" 20	54	44	21	66	Partially	Cloudy
" 22	50	66	28	44	4 4	orotidy.
" 23	68	66	25	44	46	4.6
" 24	60	44	13	4.6	Clear.	
* 25	62	44	11	4.6	Cicar.	
" 26	60	44	17	4.6	44	
" 27	70	44	20	66	44	
" 28	68	66	24	46	46	
" <u>29</u>	70	66	25	4.4	**	
" 30	67			4.6		
" 31	65	44	23 18		**	

#### NOVEMBER

				1			
DA	TE.	HOTTEST.		<b>C</b> O:	LDEST.		
Nov	. 1	66 d	legrees.	18 de	egrees.	Clear.	
66	2	68	.,	20	"	64	
46	3	64	66	1.5	66		
66	4	62	66	18	"	64	
66	5	66	44	16	44	6.	
66	6	60	66	15	**	66	
44	7	62	4.6	15	44	"	
46	8	62	4.6	30	46	"	
66	9	60	46	29	66	Partially	Cloudy.
46	10	42	66	9	64	"	Cionay.
46	11	59	66	12	46	66	66
46	12	65		18	66	66	66
+ 6	13	64	66	19	"	Clear.	
6.6	14	60	+6	23	44		
66	15	61	66	30	44	Cloudy.	
4.6	16	59	.6	24	44	o.o.a.	
+6	17	64	46	23	"	Clear.	
66	18	60	+6	33	"	Cloudy.	
44	19	45	*6	29	66	Clear.	
46	20	55	44	20	44	Partially	Cloudy
+6	21	60	66	23	66	Clear.	C.oudy.
66	22	60	+6	32	66	"	
46	23	67	**	30	"	- "	
44	24	49	66	22	66	66	
44	25	50	4.6	14	44	16	
66	26	62	4.6	24	4.6	66	
64	27	61	66	29	64	"	
+ 4	28	47	64	36	64	Partially	Cloudy
66	29	43	41	20	66	" artially	"
64	30	49	64	21	66	Clear.	
				1		1	

## DECEMBER

DA	DATE.		HOTTEST.		COI	DEST.			
Dec			degrees.	26	degrees	above	Zero.	Partially	Cloudy.
66	2	36	"	21	44	"	"	Clear.	
"	3	35	"	10	"	"	"	66	
"	4	35	"	9	"	66	"	"	
66	5	48	"	13	"	"	"		~ ·
66	6	47	"	14	"	"	"	Partially	Cloudy.
66	7	55	66	19	"	"	46	Clear.	
66	8	50	46	21	"	"	"	Cloudy.	
46		53	66	22	"	"	"	Clear.	
66	10. 11	$\begin{vmatrix} 45 \\ 40 \end{vmatrix}$	66	25 13	46	44	"	Cloudy.	CI 1
66	12	40	"			44	66	Partially	Cloudy.
66	13	41	66	12 20	66	66	66	C1	••
66	14	46	66	15	66	66	66	Clear.	C1 1
66	15	45	44	$\frac{13}{17}$	66	66	66	Partially	Cloudy.
66	16	35	46	14	66	"	"	CI	••
46	17	40	66	15	"	66	66	Clear.	
"	18	$\frac{40}{35}$	66	$\frac{15}{21}$	66	"	66		
66	19	36	"	19	66	46	66	"	
66	20	50	46	$\frac{19}{21}$	66	46	46	"	
66	21	60	46	$\frac{21}{27}$	46	46	"	46	
66	22	55	44	28	66	44	66	66	
66	23	45	46	13	46	46	"	66	
66	24	40	44	17	66	46	"	Do #41 = 11	C1 1
66	25	$\frac{40}{25}$	66	10	46	below	66	Partially	Cloudy.
66	26	12	66	16	"	below	66	Clear.	
"	27	40	44	20	66	44	66	66	
66	28	39	44	20	44	"	66	66	
66	29	50 '	- 66	$1\overline{7}$	66	above	66	66	
"	30	54	66	31	66	above	66	66	
"	31	53	"	31	66	66	"	66	

As a health resort the Big Horn country is destined to become noted both on account of its balmy, clear atmosphere and the celebrated mineral springs found here.

Perhaps the most wonderful thing in connection with climatic conditions of this great inter-mountain sanitarium is the difference between registered thermometer heat and "sensible" heat. The earliest pathfinders in the Rockies realized that there was something unique (for want of a better word) in the difference between real and apparent cold and heat. The first followers of these early adventurers found that the ordinary mercurial thermometer did not show the real facts in its registers of weather changes. In other words, that zero weather in the arid West did not carry with it the physical discomforts of zero weather in the East, whence they came. With mercury down to the zero mark they worked outdoors in their shirt-sleeves—a thing impossible in their native states.

The cattle and other live-stock grazed on the hillsides and plains as leisurely and unconcernedly as they would in Illinois, for instance, at a registered temperature of 20 degrees above, and never stopped laying on adipose tissue by reason of increased demand to keep up the animal heat. It was a mystery, but all the same a fact that experience

demonstrated clearly under their daily observation. Why? They gave it up. Finally Uncle Sam heard of this peculiar condition and began to investigate. By the use of two thermometers, a wet and dry one, he showed that in the same western locality the difference between the registry of the wet and dry thermometer was 45 degrees. That is, if mercury should drop to 35 degrees below zero by the common instrument, the real or sensible mark would be 10 degrees above.

This, then, is the explanation—dry air contains 45 degrees less heat or cold than the humid atmosphere of the country east of the Missouri River—a very "big" score and triumph for the climate of the arid West and especially marked in the Big Horn Basin.

## THERMOPOLIS

The town of Thermopolis, though situated in Fremont County, is really an asset of Big Horn County. It is just over the river on the west bank of the Big Horn, nestled lovingly between the hills, four miles below the great whirling Cañon that cuts in twain the Owl Creek Mountains, at an elevation of 4,350 feet. The surroundings are very beautiful, and, did space permit, would receive suitable description. As a desirable place for residence, it has

no superior. The pure waters of the Big Horn River roll by its front door, a joy forever.

The town exists by reason of the presence, across the river in Big Horn County, of a wonderful hot spring, surrounded by several small ones. The spring was on the Shoshone Indian Reservation, but its wonderful curative powers becoming known, Congress, by treaty with the Indians, purchased it and turned it over to the state of Wyoming to be cared for and kept as a public sanitarium.

The spring issues from the base of a hill 250 feet high, and runs 500 feet to the river, where it falls over a 40-foot bank to be lost in the pure water below. Eighteen million six hundred thousand gallons of water are discharged every twenty-four hours, heated to 135 degrees Fahrenheit. On either side of this stream there is found what is termed "The Formation," a mass of soda, lime and other mineral ingredients given off by the water as it cools in its flow.

The lands adjacent to the spring are reserved for the use of the campers who flock to the healing waters by thousands, and for sites for free public bath-houses and for such sanitariums as will in time be required to accommodate the visitors. Half a dozen free bathing-houses have been built and one extensive hotel stands on the formation close to the

spring, under lease from the state. Hence the town was founded over the river and out of the county—the river being the county line.

## Analysis of Thermopolis Hot Spring.

	Grams per Litre.	Grains per Gallon.
Silica	.0855	4.986
Iron and Alumina	.0039	.227
Potassium Chlorid	.1756	10.240
Sodium Chlorid	.4492	26.195
Sodium Sulphate	.2591	15.110
Magnesium Sulphate	.3334	19.443
Calcium Sulphate	.2256	13.156
Calcium Carbonate	.6937	40.454
Total Solids	2.2260	129.811

The late Dr. Julius A. Schuelke, once resident surgeon at Thermopolis and major, U. S. A., in a paper read before the Industrial Convention of Wyoming at Sheridan, in 1903, says: "There is no more ideal spot, so far as climate is concerned, than the Big Horn Basin. This delightful section, sheltered on all sides by high mountains, with an elevation of from 3,500 feet upward, offers all the various degrees of altitude so essential to the sufferer from tuberculosis. During the recent blizzards that raged all over the United States, that drove the mercury to seven degrees Fahrenheit below zero in

Atlanta, ruined the orange groves in Florida, and caused snow-storms in tropical Peru, Big Horn Basin enjoyed the climate of the Riviera. At Thermopolis the thermometer during the months of December and January last did not go down to zero, but an average of forty degrees above was maintained.

"In the treatment of disease, water has, from time immemorial, been an important factor. Properly used, it is a great remedial agent. I have seen a great many watering-places, and only recently spent three months at Buda-Pesth to recuperate from a prolonged sojourn in the tropics. Its springs, like those of Aix-la-Chapelle, Leplitz, Marienbad, and others, have been known a thousand years or more. I had an opportunity to draw comparisons between them and Big Horn Hot Springs, and I had no hesitancy to agree with M. P. Schuetzenberger, professor of chemistry in the College of France, when he informed me, in 1894, after kindly analyzing our waters, that, of their kind, they represent the highest type known."

The reputation of these waters has gone far and wide, and the number of persons who have come on crutches and been hauled on beds—who have thrown away their sticks and danced with delight—is almost numberless. Some of the cures seem to

be marvelous in the highest degree. Of course, the waters are not a panacea for all the ills that flesh is heir to, but for certain things they almost invariably do their work.

The following may be named as ailments for which baths in the Thermopolis hot water, accompanied with liberal drinking of same, are generally effective: All forms of syphilis and urinal diseases; rheumatism in all of its varying forms and stages; practically all kinds of stomach, kidney, and liver troubles; skin diseases.

There are about 500 people in the town, and an air of thrift is everywhere visible. The business houses are generally built of stone—there being red, gray, and white sandstone in the hills on every side. An electric-light plant has been placed at the mouth of the cañon and the buildings and streets are lighted by electricity. A fine stone school-house stands on the plateau at the edge of the town and a graded school is in good working order.

That Thermopolis will grow into a city of importance seems to be assured. It has been incorporated and shows all of the earmarks of a live community. Semi-bituminous coal is found in the hills to the north and east in great veins covering thousands of acres—and as it is of a superior quality both for domestic use and for steam purposes, it will



HARVESTING ALFALFA



be extensively worked and will unquestionably draw and develop extensive manufacturing interests to its vicinity as the population of the country increases.

The Owl Creek Mountains, five miles to the south, reach for eighty miles east and west, with Thermopolis in the middle. Copper Mountain, elsewhere described, is but a few miles away. The Gold Nugget group of gold-bearing rock is even nearer and, in fact, the entire mountain is one vast deposit of mineral, which in the near future will be opened up. Thermopolis will naturally draw a full share of the traffic incident to the development of these riches, and if awake to her interests may secure the building of great smelters, as she has the coal and water necessary for such concerns.

Necessarily Thermopolis will receive a great impetus from the opening of the Shoshone Indian Reservation next June, as it lies at her very door. Thousands of people will gather there in the early spring and a half hour's ride will put them on the reservation when it is thrown open.

Altogether, the outlook for this place is exceedingly bright and its growth to an important town or city seems a certainty.

## CODY

The city of Cody is on the south bank of the Shoshone River, at the foot of the Shoshone range of mountains. The elevation is 4,900 feet. The Cody ditch covers 20,000 acres of land in the immediate vicinity, and makes of the lawns and gardens, an ever-living flower-bed and greensward. The inhabitants number about 800 and the town is incorporated with mayor and board of trustees or aldermen. Electric lights illuminate the town and solid stone business blocks attest the push of the people. A board of trade looks sharply after the accumulating interests of both present and future. Good schools and numerous churches speak for the progress and morals of the community. As a business center, it enjoys an extensive trade with practically every point in the county. Long strings of freight wagons move out almost daily to the distant settlements.

Being the terminus of the B. & M. R. R. it naturally distributes all the supplies to the people living in the foot-hills of the Shoshone Mountains and the mining camps scattered from Sunlight to Kerwin. The mountain country reaching from a few miles west of the city clear to the National Park is rich in minerals and a knowledge of this fact, just beginning to spread, will make an outfitting and

supply point to cover a vast region sure to become a beehive of mining development within a short period of time.

The live-stock interests—thousands of cattle and sheep being in the country round about—make Cody the shipping point, thereby distributing many dollars. The government will spend \$3,000,000 on its irrigation dams, tunnels, and ditches at Cody within the next few years and the great Oregon Basin enterprise is spending millions on its work in close proximity.

Uncle Samuel has constructed a road from Cody to the National Park, and thus it becomes the starting point for thousands of tourists who will, in increasing numbers, visit that "Playground of the Gods" in all the years to come.

When the ditches now under way are completed, Cody will be the natural trading point for the settlers upon 300,000 acres of rich farming land. Two or three sugar factories will be located in the town as soon as the water is spread over the surrounding fertile lands, and other manufacturing interests are likely to develop.

The De Maris Hot Springs are just above the city, on the bank of the river, and are attracting a goodly number of visitors. Reports of the healing

character of the waters are very encouraging. Following is an analysis:

	Per cent.
Carbonic Acid (combined)	17.670
Sulphuric Acid (combined)	24.326
Calcium Oxide (Lime)	
Magnesium Oxide	5.180
Iron and Aluminum Oxides	0.521
Organic Matter	
Water of Combination	
Moisture	3.201
Lithium, Sodium, and Potassium (Oxides	
and Chlorides)	
By Chemistry Department of Nebraska U	

Looking north from the town, Heart Mountain looms up grandly before you, apparently but a step away, a most magnificent peak 8,000 feet above the sea. It is a continual feast of beauty to the oldest inhabitant as well as to the new arrival. The lover of nature in its primal allurements can find new scenes and charming, fascinating views within a half day's ride that will hold him in chains for days and weeks. 'Tis apparently but a step from the bustle of human endeavor to the solitude and grandeur of nature.

## BASIN CITY

Basin, the county seat of Big Horn County, is on the west bank of the Big Horn River, practically in the center of the county. The location is ideal in that it overlooks the river and the magnificent Big Horn range of mountains forty miles to the east—a view always pleasing to the eye and inspiring to the soul. There are about 500 people domiciled in the village, among them men of sterling worth and great courage. Already a splendid water system has been installed and an electric-light plant is in formation. The mayor and council are men of action and they have at heart the upbuilding of the town.

The railroad grade is completed through the eastern side of the place and within a few months the locomotive whistle will become a familiar sound.

The Big Horn Canal will soon be turning its life-giving waters upon the rich lands adjacent to the town and hundreds of new farms will be opened up to pass their products into the trade center, and the surrounding plains will be clothed in a garb of green. Two large stone banks are in course of construction that really would be a credit to any town of four times the population of Basin.

A graded school, college, and churches show the trend of thought among the people. A \$13,000 steel

bridge spans the river in front of the town, and a \$6,000 court-house, made of brick, accommodates the county officers. Fairly good coal lies in the hills on two sides of the town and reaches out for miles both west and southeast, making it a certainty that Basin will become more or less of a manufacturing place. The population is increasing rapidly and faith is strong among all classes. Telephone lines radiate in all directions, placing the entire county in touch with the county seat and the great outside world.

#### WORLAND

The town of Worland is on the east bank of the Big Horn River, midway between Basin and Thermopolis. According to the latest railroad map this will be the terminus of the Burlington road for a time, waiting, no doubt, the construction of the Burlington from Guernsey west to Salt Lake, when the road will push on through Big Horn Cañon and, joining the other branch near Atlantic City, form a trunk line from the northeast to the southwest.

There are 50,000 acres of choice level lands within seven miles of the depot, every foot of which will be under successful irrigation by the close of the year 1906, the Hanover, the Big Horn and the Bluff Canals furnishing the water. Here will be

established two or more beet factories and a flourishing little city will be the result. This being the
end of the Burlington road, undoubtedly it will be
made a registering point for land seekers at the
opening of the ShoshoneReservation June 15, 1906,
and thousands of persons from the Northeast will
come in to take a chance in the land lottery. Of
course, this will make it an exceedingly live town
during the summer and much of that temporary
growth will become permanent. Worland is the
present headquarters of the Hanover and Big Horn
County Canal companies, and with their hundreds
of men and teams employed give a decidedly business air to the place.

## GARLAND

Garland is a station on the railroad thirty miles east of Cody and is the distributing point for merchandise and supplies going to Basin and the eastern half of the county. Of course, with the railroad pushing south along the Big Horn River, the trade of Garland will be largely curtailed, but conditions are rapidly shaping that will make of it a larger and better town than it has ever been. There is a wide, level stretch of bench land between Garland and the Shoshone River that will average six miles wide and twenty miles long. It lies under the

government ditch and will all be "brought in" as farming lands, mostly under the eighty-acre homestead ruling of the Land Department at Washington. This will all be at the door of Garland and make it a prosperous town.

Just across the Shoshone is the Whistler Creek irrigation proposition that is sure to materialize and add 30,000 more acres of farming land to Garland's budget. Three miles north of the town and near the railroad, several coal veins crop out and sufficient work has been done to prove the presence of high-class lignite in great abundance and so situated as to be easily handled. This will become a source of continuous support, employing many men. The oil basin beginning at Hyattville and running north by west dips into the country near Garland and is certain to prove a rich store-house of buried wealth.

## **MEETEETSE**

The town of Meeteetse is on the Gray Bull River at the foot-hills of the Shoshones. The word means "place of rest," and aborigines made it a general camping place because of its charming surroundings. Instead, however, of its being a place of rest, it is a place of activity. It is the center of one of the best grazing districts in the West and hundreds of

small and dozens of large holders of sheep and cattle make it a trade and social center.

There are two banks and numerous general stores and the amount of business done is almost beyond belief to one who does not know the outlying country. There are but a hundred inhabitants, but an air of thrift pervades the town that is really refreshing.

Thirty-two miles up the mountain, on the very top of the Shoshone Range at the head of the Wood River, is Camp Kerwin, destined in the near future to become world famed for its mineral output. Kerwin is the camp that turned out the \$128,000 gold ore, and every hillside shows mineral in more or less richness. Meeteetse is its supply point and the trade is rapidly increasing.

The Burlington Railroad Company has surveyed a route up the Gray Bull River to this little city and it is but a question of time when the iron horse will be pulling ore out from and supplies into this great store-house of nature. Meeteetse should catch hundreds of summer tourists who have leisure and love the excitement and pleasures of mountain sight-seeing, fishing, and hunting, because in the region round about his most ardent desires can be fully satisfied.

Good coal in the adjacent hills and cheap and

abundant farm products from the rich valleys above and below the town will make Meeteetse the winter home of the thousands of miners who spend their summer in the mountains above. Meeteetse will grow.

# OTTO

The town of Otto is on the Gray Bull River, twelve miles west of Basin, and is a pleasant rural village, drawing its support from a rich agricultural country surrounding it. There are good schools and the community is prosperous. Machinery for a modern creamery has been purchased by the farmers and will be put into operation in the village. It will be on the line of the Burlington Railroad when the Camp Kerwin branch is constructed.

# BURLINGTON

Burlington is a very prosperous community twenty-five miles up the Gray Bull River from its mouth, and is in the midst of a very extensive irrigated farming district. It has several stores, a bank, and graded schools. The settlement was commenced by a colony from Utah, ditches taken out and homes built. Should the railroad ever reach this point, it will grow into an important position, as there will be a hundred thousand acres of irri-

gated land tributary to it, and one or two beet factories are sure to be located there. The people are awake to the school question and will strive to make it an educational center. Certainly there is a bright future for the town.

### HYATTVILLE

Hyattville nestles between the banks of the Paint Rock and Medicine Lodge Creeks, a quarter of a mile above their junction, and six miles west of the Big Horn Mountains. As a town site it is ideal, but its growth has been slow. The country up and down the valley to the east and west is one of the most prosperous in the county, all being owned by ranchmen with bunches of cattle ranging from fifty to seven hundred head, and the whole stretch, fifteen miles, is one continuous alfalfa meadow. But the trade area is too small to support more than a village with its two general stores, blacksmith shop, school, and church.

The citizens still have hopes that the great mountains, forming the background of the magnificent view as they greet the morning sun, has something good in store for them.

There is a flattering gold and copper prospect near the head of the south fork of Paint Rock. The vein is seven feet at the surface, with trap rock footwall and granite hanging wall. Assays run as high as \$40 with \$10 to \$15 average across the vein. The shaft was sunk thirty-five feet when water came in and stopped work. With new, rich mineral finds almost daily in the mountains to the south and west, why should not faith be kept in the Big Horn?

Oil springs scattered up and down the stream for fifteen miles hold out yet another promise of future thrift, because these hidden lakes of oil will not always lie undisturbed by the searching drill. They will yield up their liquid gold and touch the community with a magic thrill.

#### SHELL

Shell is a little town on Shell Creek well toward the mountains, and while yet embryotic, is a pleasant spot, surrounded by an exceedingly prosperous community of farmers and stockmen. Happy homes dot the long stretches of level land by the murmuring stream and the bellowing herds come down from the mountain pastures in the autumn to make glad the hearts of their owners and swell the bank account.

### LOVELL

The new town of Lovell has been laid out on the south side of the Shoshone at the railroad crossing. It has many thousands of acres of rich, irrigable

lands to support it and as a shipping point will gather trade as the years go by.

# COWLEY

Cowley is on the line of the railroad six miles north of Lovell. The town was established by the Utah people when they took out the Sidon Canal, and now numbers several hundred people. It is in the midst of a farming district and will grow as agricultural development grows. There are two hundred and fifty children in the four-room school and the people are awake to educational interests.

### BYRON

Byron is another village of the Mormon colonists, close to the Shoshone and above Lovell. Like Cowley, it is surrounded by fertile lands that are rapidly being put under the plow, and will be the social center of a happy and prosperous people. Two hundred children in school tells the story of the community aspirations—"Give the little ones a chance!"

The Mormon settlers deserve special credit for their efforts. Three years ago this section of the country was practically a desert. To-day it is a smiling landscape, spotted with homes and verdure clothed—the result of the combined effort of willing hands and brave hearts.

The Utah beet sugar factory, having fully investigated the quality of Big Horn County grown sugar-beets, has promised to place a factory at or near Cowley. Work is likely to be commenced this year. Then will history be seen to repeat itself. Where now the unpretentious cabin stands on good, but low-priced land, half a score of years will see the cabins give way to well-built houses with pianos in the parlor, handsome carriages under the sheds, and lands worth on the market from \$300 to \$500 per acre. Truly, a magic transformation, but one that "sugar" will bring about.

### FRANNIE

Frannie is the point where the railroad branches off to run south up the Big Horn Valley. It is a small town on Sage Creek flat, two miles south of the Montana line, with much good land adjacent, but heretofore without water for irrigation. As a "dividing point" it will have some prestige and in time, when "the water comes," is likely to grow into importance.

There are a number of country stores scattered about the county that some time may grow into importance as the resources of the country are developed. They are not, however, of sufficient present importance to specially mention.

# **JORDAN**

Is a postoffice on the lower No Wood where, some years ago, was erected an up-to-date patent process flouring mill. Three hundred horse-power was developed by taking a ditch from the No Wood River, and this is the pioneer mill of the county. First-class flour is made from our hard wheat, and now that the population is rapidly increasing, farmers will be encouraged to greatly increase their wheat production.

### BONANZA,

On the No Wood, at the mouth of Paint Rock Creek, is simply a good country store and postoffice, but it is in the center of an extensive oil belt, or rather at the junction of two extensive oil basins, and when the fields are "brought in" will necessarily be a point of importance.

# POSTOFFICES OF BIG HORN COUNTY

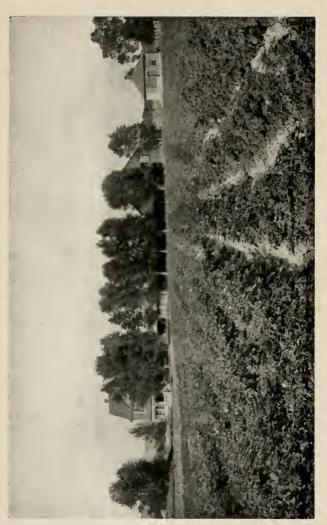
Basin*	Embar	Jordan	Painter
Bigtrails	Fenton	Kane	Redbank
Bonanza	Fourbear	Kirwin	Rome
Burlington	Frannie	Lovell	Shell
Byron	Garland	Marquette	Sunshine
Clark	Germania	Meeteetse	Tensleep
Cloverly	Hyattville	Middleton	Valley
Coburn	Ilo	No Wood	Welling
Cody	Irma	Olwen	Winchester
Cowley	Ishawood	Otto	Worland
*County seat.			

### HUNTING AND FISHING

Stringent laws for the protection of game and fish have been enacted by the Wyoming legislature and in consequence promiscuous slaughter has been stopped.

Game fish may be caught by means of rod, line, and hook, in the Big Horn River and tributaries during May, June, July, August, and September; but no more than twenty pounds of game fish may be in the possession of any one person or party at any time. No trout or black bass less than six inches in length can be legally caught. No game fish can be offered for sale or shipped within or without the state. The state fish commissioner may permit seining in lakes which have been stocked with lake trout, whitefish, or carp.

A bona fide citizen of the state of Wyoming may hunt, during the open season, within the limits of the county in which he is an actual resident, by the payment of a gun license of two dollars. It is not necessary for a citizen to have a gun license to hunt game birds, according to the intent of the law, as per recent decisions, though the late amendments to the game laws include citizens and non-citizens as required to have licenses. Non-resident hunters must secure a license at a cost of fifty dollars, and must be accompanied by a registered guide.



IRRIGATED POTATO FIELD



During the open season licensed parties may kill two elk, two deer, two antelope, one mountain sheep, and one mountain goat, between September 15th and November 15th. The barter or sale of any part of the animals above mentioned or the possession of more than the specified number is prohibited, under penalty of heavy fine or imprisonment. License must be carried and shown upon request. Game killed by non-resident licensed hunters may be shipped from the state, upon a certificate from a justice of the peace stating that such animals were killed according to law. It is unlawful to sell any part of any wild animal, hides, horns, or tusks, or to use dogs for the purpose of coursing or running the animals above mentioned. Taxidermists can not buy hides, horns, or any part of game animals or birds, but mounted birds or stuffed heads and horns of animals lawfully killed may be shipped within or without the state.

The forest reserves east of the National Park and the Jackson Hole country are undoubtedly the best hunting districts of the West. Thousands of elk, deer, and antelope graze in the little mountain parks and offer splendid sport. These fields are conveniently reached from Cody and Thermopolis, at either one of which places suitable outfits and guides may be secured.

### SHOSHONE INDIAN RESERVATION.

The government having secured the cession of about a million and a quarter acres of land from the Shoshone Indians, it will be opened for settlement under such rules as the land department at Washington may determine, presumably the same as the Rosebud opening in South Dakota. The lands are to be opened to settlement June 15, 1906.

Two or three hundred thousand acres of this land are classed as agricultural, and are easily irrigated by large coöperative ditches. Within the area to be opened are half a million acres of mineralized mountains, for years known to be rich in gold and copper, but beyond the reach of the prospector. June 15th this will be open to the manipulator of the pick and shovel and "the mountains will be alive."

Intending visitors who live along the Burlington, Northern Pacific, and other northern lines of railroads will come to Worland, which undoubtedly will be a point of registration, thirty miles from the reservation line. There will be ready communication to the opening district by carriage, wagon, or saddle horses at reasonable prices.

## THE YELLOWSTONE NATIONAL PARK

The following description of Yellowstone Park was written several years ago, after a sixty days' outing in the Park and the mountains surrounding it. Some slight changes of geysers have taken place since that time—some have subsided, others taken their place. These changes, however, are not of such importance as to count in the general description.

At that time the tourist traveled from the east, all entered at the northern gate and made the rounds in the order named in my descriptive pages. Since then the government has built a road from Cody, Wyoming, up the north fork of the Shoshone River and across the Forest Reserve, entering the Park proper at the Lake Hotel, ninety-six miles from Cody.

The way leads among towering peaks, rocky gorges, and pine-clad slopes; passes leaping waters, sentinel rocks, and sylvan lakes. The views, from start to finish, along the road are equal to any to be found in the Rockies or the Alps, barring, of course, the wonderful displays of thermal action in the Park. This ninety-mile ride is worth going thousands of miles to enjoy, for enjoyment it is every moment of the time consumed on the trip.

Cody is the end of the Burlington Railroad and

there the stages for the Park connect. Parties can choose between the regular coaches, making schedule time, special carriage or saddle horses and all necessary conveniences for beds and provisions, with cooks and guides, or can stop at the several hotels along the way, where good accommodations are to be had at \$3.50 to \$4 per day. Regular stage fare is \$15 to \$20 for round trip. Expense of private rigs is in harmony with your notion as to what you want.

Resting above the clouds; kissed by the breezes that form in the upper realms and carry no taint of disease or the death-dealing germs that linger in the lowlands of earth; guarded on every side by snow-capped peaks that pierce the sky and mirror back the endless forms of beauty that enchain the beholder, is the Yellowstone National Park, the wonderland, the marvel of nature, and the playgrounds of the gods.

Search the world over, from the ice-crusted polar regions, where midnight lingers through half the year and nature sleeps, to the life-inspiring southland, where the orange yellows on the tree, the grape purples on the vine, and the breadfruit springs spontaneously from the ground; from occidental plains to oriental mountains; wherever sunlight penetrates the veil and moonbeams play, and

nowhere else can be found such a combination of the beautiful, the grand, and the sublime—such a climax of nature's handiwork as is to be seen in this apex basin of the Rockies.

Here we see the rolling approaches to the foothills, green with grasses and decked with flowers of a thousand hues. There the foothills themselves, the bodyguards and picket sentinels of the great ranges, ever on duty as the trusted soldier on the tented field. These supports to the great encircling chains are as varied in their conformation and consistency as are the conceptions of the human mind. One is the perfection of symmetry, when viewed from any quarter, its sides smooth and inviting from base to summit; another, rock piled upon rock, craggy projections here, cavernous depths there; walls perpendicular and walls hanging over; stones smoothed by the action of the elements on their surfaces or shaped into all manner of forms by these same elements.

Then come the mountains, themselves the giants in nature, rearing their proud heads far into the ethereal blue, and from their vantage ground wearing a smile that reaches out and gladdens the earth in its lower fields. The dewdrops from the mountains, gathered there while the storm king reigned, are the joy, the life of the plains below. On yonder peak rests

the snows of centuries, a robe of whiteness unspotted by the changing rays of the sun, unsullied by the tornado's sweep, and free from the cyclonic embrace of electric combinations. Down the sides of these cloudpiercing piles the pine tree grows in sturdy thrift, and from the shady nooks spring babbling brooks that dance and sing their way to the Missouri and the Columbia, whence they wander on to lose their identity in the tropical seas and the western ocean. Raised from the lower depths by the strong pulsations of nature, these mountain walls encircle an area sixty-five by seventy-five miles, the depository of nature's master mind—the outward manifestations of the secret laboratory being worked below. There are over fifty geysers sending their heated waters from thirty to two hundred and fifty feet into the air; thousands of hot springs; boiling mud pots; soda fountains effervesced by hidden combinations; crystal springs; calibate waters; sulphur hills; composite towers; petrified forests and obsidian or glass mountains, all the work of the genius who presides as chief director of this burier experimental station.

The usual tour of the Park begins at the Mammoth Hot Springs, near the northern boundary. Covering an area of 170 acres, with thirteen terraces and more than half a hundred hot springs, this is the most remarkable development of thermal action

known to man. Deep down toward the earth's center, lakes and oceans of liquid, boiling in rocky cauldrons, blend with molten masses of earthy matter, and through secret, winding ways the pent-up forces reach the light. Laboring in the dark passages and struggling with new and stronger conditions and substances, combinations are formed that yield to the light of day, and the transformations give us the marvels of the hot springs region.

Look upon that terrace! On the apex of a round, gently sloping hill 500 feet across, bubble up sea-green waters from unknown depths. The crater is 100 feet in diameter. The transparency of the boiling water is such that for hundreds of feet down into the breathing mass the slightest object can be seen and every motion or cloud that disturbs the air above is accurately reflected below and spread before your gaze. The thousands of minute projections on the sides are mirrored back in perfect form and endless variety of shades and colorings. The overflow, spreading in all directions and vielding to the action of light, has evaporated, until the minerals, formerly in soluton, have crystallized and built up a series of little basins, or pot-shaped depositories, the dividing walls being composite in character. These pools are in regular terraces, one above the other, for hundreds of feet, down either

slope. The walls being made up of such a variety of mineral substances, the water, as it gently flows over them, gives off the most wonderful coloring effects, including all of the primary colors, with every possible shade of blending-red, from the brightest scarlet to the softest and most delicate rose tint—yellow, from the deepest sulphur through all the variations of cream. Interest in this phase of the terraces is greatly heightened by the changing rays of the sun, the peculiar shade varying with the declination of those rays. Hence, for every hour of sunlight there is a new series of blended coloring that holds the mind in exaltation and ecstacy of delight. And each separate pool, while to the casual observer not differing from others adjacent, really produces effects dissimilar from those of each and every other one, thus affording such endless variety to the student of colors as to satisfy the most ardent lover of rainbow tints. No coral from equatorial seas is handsomer than the spongy moss of fibrous matter that forms along the little rivulets escaping from the hot pools, and one involuntarily compares it to the most beautiful specimens from the tropical isles. Taken as a whole, the terraces impress one as being a most remarkable manifestation of the mysterious workings of nature in happy conjunction with the beautiful.

Proceeding southward, we pass through the "Golden Gate," a charming roadway between "Benson's Park" and "Terrace Mountain," distinguished by reason of the high perpendicular walls on one side and the canon below, this beautified by a waterfall of sixty feet that dashes down upon and loses itself among the gray, moss-covered rocks. Continuing along the drive, the spring of natural apollonaris water is sampled with a relish; the obsidian or black volcanic glass mountain, a rarity in all lands, is skirted and numerous special attractions met with on the way to Norris Geyser Basin. This basin covers an area of six square miles and numbers among its most inviting features the gevser's Congress, Constant, Black Growler, Monarch, New Crater, and the Emerald Pool. Besides the above named, there is a wide flat near by that is filled with openings containing boiling water of various hues and emitting sulphurous odors of high degree. The greatest care must be observed in visiting this region, as the crust formation is so thin and treacherous as to give uncertain support to the pedestrian.

Leaving Norris Basin the road passes near the celebrated "Gibbon Paint Pots," one of the curious and interesting wonders of the Park. These are a series of mud springs, or openings in the highly

colored clay, each one filled with a mass of what might be taken for ready mixed paint, boiling over a seven-times heated fiery furnace. The most interesting one of these is located fifty feet up in the hill-side, and while the motion of the semi-liquid mass is less violent than that of the adjacent pools, each pulsation of steam from below molds and sends to the surface a perfect rose in full bloom.

Passing on by "Gibbon Falls" and the "Firehole" River, each of which deserves special mention and detailed description, we reach the Lower Geyser Basin, where 693 hot springs and 17 geysers have been named and catalogued. The noted geysers of this basin are the Fountain, Great Fountain, and Excelsior. Not less interesting, however, than these wonderful displays is the Prismatic Lake, located 500 feet west of Excelsior geyser. This is the largest spring in the Park, being a rectangle 250 by 400 feet. It rests on top of a silicious formation, built up of layers as time and atmospheric influences have separated the solid and liquid matter boiling up from the nether regions. Gazing out to the center of the lakelet, the water is of the deepest blue, while that approaching the margins is intensely green, with a yellow circle, fading to orange. forming the outer rim. Outside of the rim there is a brilliant red deposit, which shades into purples,

browns, and grays, the coloring being in clearly defined bands and so marked as to at once attract and hold the attention of the visitor. A succession of diminutive terraces has been formed on every side of the mound by the slowly passing waters, which in these passages over the terrace give a sparkle and shimmer that greatly increase the pleasing effects. The richness and delicacy of coloring here displayed are simply unsurpassable. The constantly rising clouds of steam act as reflectors and give off, not alone the bright colors seen in the waters, but all those of the perfect rainbow.

The next point of interest is the Upper Geyser Basin, and it seems to be an intensified reproduction of the Norris and Lower Basins. It covers an area of 4 square miles, contains 26 geysers, and over 400 hot springs. "Firehole" River drains it and the surface, generally speaking, is a succession of undulations, as if the waters of old ocean had rolled over it and, suddenly receding, had left the imprints of mighty waves to mark their former abiding places. Each wave mark is crowned with a "geyser cone" or hot-spring vent. Entering the valley one is quite affected with a feeling of awe, realizing, as it were, that he stands face to face with the active and mysterious forces of nature. Low, rumbling sounds fall upon the ear; the sky is heavily

draped with vapor from the escaping steam; the earth trembles with a vibrating motion; sulphurous fumes fill the air; vegetable life is destroyed, and the very heavens above seem to echo a cry of warning to beware of lingering in this land of lost souls and migratory spirits.

The geysers of this basin are the grandest to be found on earth and Old Faithful is the crowning glory of them all, sending a vast column of water and steam 150 feet into the air every hour, from year's end to year's end—always coming up smilingly to greet the excursionist and demonstrate the wonderful power and majesty of nature's hidden forces.

A short drive from the Upper Basin over the Continental Divide, and you are on the shore of the Yellowstone Lake, a body of crystal water fifteen by twenty miles, but of irregular outline. Nestled at the feet of towering mountains; bordered by a continuous fringe of dark green forest; dotted with islands, and sending arms or inlets out into the midst of the surrounding landscape, tourists with one accord pronounce this the handsomest inland sheet of water on the western continent. It is 7,788 feet above sea-level and is an important source of that great father of rivers that drains and fertilizes a dozen states of the Union.

Leaving these beautiful scenes, and the myriads

of speckled trout that seem to vie with each other in their efforts to dangle from your fishing tackle, a few hours' easy coaching carries you to the great cañon and the leaping waters of the Yellowstone. I have stood on the margin of the Columbia and watched with keenest zest the waters of that beautiful river as they dash over the Dalles and Cascades, having, in one giant effort to be free, cut their way through a mountain chain 8,000 feet high. I have gazed into the dark, almost bottomless depths of the Colorado Cañon, where the perpendicular walls of salt rise thousands of feet on either side. I have rested at the feet of the beautiful Shoshone Falls of Snake River, where the vast volume of water plunges over castled rccks and is lost in spray and foam before its leap is ended. I have sat upon Table Rock and viewed through youthful eyes the magnificence and grandeur of Niagara, only to come in my later years and bow down at the shrine of the Yellowstone. Words fail and the most vivid imagination tames when an attempt is made to picture to other minds the reality as it stands and spreads out before the onlooker. There comes the mighty river, rolling swiftly over its rocky bottom, 1,000 feet below the point of observation. With a dash and a roar it drops 360 feet, a foaming mass, sparkling as if set with a million diamonds of the finest ray. The suddenness of the fall and the diffusion of drops into spray bring a feeling of awe, mixed with supreme delight. Having reached the cañon's bed below, the waters whirl along the almost measureless depths in a ribbon of pearl until lost in the maze of emeralds and other precious settings. The sides of the walls, in many places as straight up and down as if formed by master mechanics with plummet and line, are the embodiment of perfect color combinations. No shade of the prism's reflections but stands out before vou in intensified degree, spreading a shimmer and a sheen of such brightness and loveliness as to dazzle the eye and fill the soul. The brightness and halo of the grand uncovered tunnel through the mountains is such as to inspire the mind of the beholder with the thought that came to Milton when, in writing a poem on the parable of Christ turning water into wine, he said, "The conscious water saw its God and blushed." So, the conscious mountainsides, seeing their God in all the out-pourings of nature around and about them, blushed; and their blush remains to heighten their beauty and bless the fortunate mortals whom circumstances favor with a visit to these soul-developing landscapes.

But the coloring and magnificent depths are not all. The voice of nature sings in the dancing waters of the brooks that wind their ways from rock to rock mid fern and moss; in the boiling springs that bubble up from the home of the fire gods; in the carved statues which fill every niche and projection of the mighty walls; in the sentinel rocks that guard every side; in the ribbon of silver that unwinds for miles before your gaze and hides away behind the crimson hills; in the little geysers that toss their heated sprays into the air like tea-pot steam, boiled and steeped in the kitchen of the gods; in the flowers that bud and bloom and in the stately pines that fringe the mountains and carry healing in their breath. The canon and falls of the Yellowstone. with their wonderful settings of natural jewels, surpass any other view of similar character in this country and, judging from the best information obtainable, that of the most-favored canons of Europe and the eastern world. To see them is a joy forever-not to see them should be a regret forever.

Desiring a view of the Park, as a whole, you ride from the Grand Cañon Hotel ten miles, to the summit of Mt. Washburn, whose rounded top sits 10,000 feet above the sea and is nearly in the center of the reservation. On every side the view is stayed by snow-capped peaks, the guards of honor of the Clark Fork, Madison, Stinking Water, and Teton ranges of mountains. Describe a circle of vision about you and every part of the basin comes under

review—the green, velvety slopes of the distant mountains; the crystal lake; the sparkling waterfalls; the towering rocks and craggy peaks; the shadowy waves of clouds that hang and glide over the distant geysers; the white waters of the Yellowstone River in their resplendent settings; the gorge of the great canon; the beautiful valleys, with their reminders of peace on earth, that separate the foothills and reach down to the lake and rivers; in short, the smile of God seems to rest upon you as you linger drinking in through every sense the invigorating draught which nature has here distilled.

Descending from this point of panoramic observation and riding over to Tower Falls and the Petrified Trees, the special attractions of the Park will all have been visited and the excursionist will be ready for the return trip to the Mammoth Hot Springs, whence he started. But he will have seen only the special features. There are hundreds of other views that if located outside of the Park would be considered sufficiently attractive to draw large numbers of visitors from all parts of the world Being, however, thus overshadowed, their beauty is unappreciated and few persons even know of their existence. The great mistake of most tourists is that they hurry along the main highways and rush from point to point without a proper study of



ENTRANCE SHOSHONE CANON



nature as opened to them. No one can "do the Park" in less than twenty days, and then he will have failed to see many of the charming things which invite his examination.

As the National Park is the Mecca of all lovers of the grand and sublime in nature, where the most impressive object lessons of that mysterious power and majesty which controls terrestrial matter and conditions are given, so it should be the great American teacher of patriotism. When the waters were called back and this magnificent stretch of country that reaches from the rock-ribbed shores of the Atlantic to the Pacific waters of the occident was lifted up, the creating architect, with foreknowledge of future conditions, placed midway between the oceans this scenic attraction that it might be accessible alike to the East and the West. There it sits overlooking a continent, beckoning to the peoplethe old, the middle aged, and the young, the men and the women (for the women, God bless them, will yet control the destinies of the world)—to come and worship nature, to learn of the great teacher, and be assured that in the formation of our own America the very climax of creative genius was displayed.

The history of the world proclaims that the love of country and home is most strongly developed

and most deeply rooted in the hearts of those races and peoples whose firesides are surrounded by the grand and sublime in nature. Centuries of fighting on the blood-red battle-fields, guarding the approaches to the passes in the Alps and Pyrenees Mountains, attest the patriotism of the little bands of natives whose every breath of life had been drawn amid the glories of alpine hills. The invading hosts from the plain countries came not for the love of native land, nor in defense of family treasures, but for conquest alone; thus clearly defining the difference in character of the men who sought to conquer and those who gave their lives in defense of their liberty, their home, and their loved ones. The very air of the mountains is filled with an elixir of life that endears every crag and stony peak; each vale and rolling plain; every gorge and mossy niche, and every smiling hillside to him who lingers there. Hence it should be deemed not only a highlyprized privilege but a duty of every citizen to spend some time in the American Alps and be filled with the patriotic spirit which is inseparable from such a communion.

The most reliable estimates place the sum of money spent annually by the people of the United States for touring in Europe at \$150,000,000 in gold. The principal inducement for the expenditure of

this vast sum of American gold is the desire to wander beside the mountain streams; sail on the sleepy lakes in the broken ranges; climb the giddy heights; gaze upon the snowy peaks, and watch the rainbow tints painted by the morning and evening sun upon the white-robed hills and yawning chasms. This desire springs from the fact of the wide, the universal advertising of the pleasing features of such an Eastern trip, while comparatively little is known of the charms and splendors of the West. We have a Switzerland of our own in comparison with which the transatlantic one pales into insignificance.

The great backbone of America, from the line of British Columbia to the Republic of Mexico, is one continuous line of beauty, the scenic effects of which are fully equal at all points to the most famous resorts of the European mountains. What shall we say, then, when we name the Garden of the Gods, Pike's Peak, the perpendicular walls of the western division of the Rockies, the Wasatch Chain that separates the states of Wyoming and Utah, the grand Tetons, Jackson's Lake, etc.?

As this little book will be read by thousands of Eastern people who will later visit Big Horn County, I have admitted a few advertisements of conservative banking institutions for the information of intending visitors.

# BIG HORN COUNTY BANK

### BASIN, WYOMING.

OLDEST BANK IN BIG HORN COUNTY.
MEMBER AMERICAN BANKERS ASSOCIATION.

#### OFFICERS:

W. J. Booth, President. J. D. Allen, Vice President. D. L. Darr, Cashier. M. B. Rhodes, Ass't Cashier.

Accounts of individuals, firms and corporations solicited and their business given careful attention. Liberal treatment given our customers consistent with conservative business principles.

# STOCKGROWERS BANK

THERMOPOLIS, WYOMING.

#### OFFICERS:

JAMES DICKIE, President. W. DEAN HAYS, Vice President.
J. W. MARTIN, Cashier. L. L. SMALL, Ass't Cashier.

Does a general banking business with good connections in most Eastern cities. Eastern exchange bought and sold.













